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# AN ANALYSIS OF THE 57th AIRLIFT SQUADRON TRAINING PRODUCTION

GRADUATE RESEARCH PROJECT

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# AN ANALYSIS OF THE 57th AIRLIFT SQUADRON TRAINING PRODUCTION

GRADUATE RESEARCH PROJECT

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The views expressed in this graduate research paper are those of the author and do not reflect the official policy or position of the U. S. Government, the United States Air Force, or the Department of Defense.

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To Major Joe Herron I thank him for showing me that there is more to being an Oklahoman than being born there.

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James R. Howard

# TABLE OF CONTENTS

Page

# List of Figures

Page

Page

# Abstract

The "Global Power/Global Reach," vision was the cornerstone for massive change in the Air Force. The Department of Defense now relies on the mobility of a smaller force instead of forward deployed forces. The vision refined in 1996, maintains the heavy dependence on mobility declaring it a vital core competency of the Air Force. With the nation's interest in mobility, the importance of Altus AFB becomes even greater. Altus currently resides in Air Education Training Command (AETC). The primary goal of this command was to produce mission-ready students so the operational commands could devote their time and money on war-time missions. After extensive review of the status of student production in the 57AS, the C-141 maintenance performance, customer satisfaction rate, and what the impact of the civilian maintenance conversion at Altus has been, it is concluded that the 57AS and AETC meet the primary goal established in 1993. The customer is receiving mission-ready students. The review also discovered that the maintenance conversion has caused considerable problems for Altus AFB that will have to be solved to keep the graduates on-time and mission ready.

# AN ANALYSIS OF THE 57th AIRLIFT SQUADRON TRAINING PRODUCTION

## I. Introduction

### General Issue

The collapse of the Soviet Union has brought unprecedented change to the Department of Defense (DoD). The strategy the DoD employed during the Cold war was a simple containment policy. The leaders at that time believed that the source of all communist power lay in the Soviet Union, its satellites, and China. The goal of the containment policy was to contain the threat through alliances and lacing U.S. military installations around the perimeter of the communist countries to physically stop the spread of communism (Fogleman, Maxwell AFB, 1996). This all changed, however, when the Soviet Union disintegrated in December 1991 (Casey, 1994: 2).

With the Soviet Union no longer available to structure American defense around, a shift in American national priorities began to occur. Most notably for those in the military it was the beginning of a continuing series of budget decreases and force downsizing (Fogleman, Maxwell AFB, 1996). The Air Force had a plan to engage the rapid changing future and that long range plan was call "Global Reach-Global Power." This plan, or vision, was ground work for the path the Air Force would follow to guide it through restructuring and modernization (Fogleman, Global Engagement, 1996). "Global Reach-Global Power" lasted close to six years until the Air Force Chief of Staff, General Ronald R. Fogleman, unveiled his new plan, "Global Engagement: A Vision for the 21st Century Air Force," (Fogleman, Maxwell AFB, 1996).

Global Engagement builds upon the tenants of the former plans and gives the Air Force a path to follow to achieve success in the 21st century. "The vision captures the global nature and the unparalleled access that air and space forces possess from operating in a medium that surrounds the globe and touches 100 percent of the population and every center of government of the face of the Earth," (Fogleman, Washington DC, 1996).

Global Engagement describes six core competencies the Air Force should focus on to fulfill the tenants of this vision. The competencies are Air and Space Superiority, Global Attack, Rapid Global Mobility, Precision Engagement, Information Superiority, and Agile Combat Support (Fogleman, Washington DC, 1996). With these six competencies the Air Force will be able to meet the challenges of the 21st Century.

The competency that this author is specifically interested in is Rapid Global Mobility. This involves the ability to bring forces forward for a full range of operations, from combat to humanitarian efforts (Fogleman, Washington DC, 1996). Fogleman goes on further to say, "Our airlifters and tankers are important today and they will continue to be so in the future. They give the National Command Authority (NCA) the ability to reach out and influence events around the world," (Fogleman, Washington DC, 1996).

The foundation of the airlift and tanker force is the initial and advanced qualification training that aircrews receive while they are at Altus Air Force Base. Altus AFB is the U.S. Air Force's only strategic airlift and air refueling training center. The primary mission of Altus is to provide quality training to produce the finest combat-ready aircrew members for the United States Air Force. Altus' goal in producing the crew members is to send the students that have

been trained at Altus back to their home units as mission-ready as possible (97 AMW Mission, 1997).

Altus AFB currently resides inside the Air Force's Air Education and Training Command (AETC). AETC was formed 1 Jul 1993 from the old Air Training Command (ATC) along with the training bases that were formerly owned by the other Major Commands (MAJCOM) (Casey, 1994: 45). These bases included Altus, Luke, Tyndall, and Kirtland Air Force Bases. Each one of the bases served as the formal training base for the weapons systems that resided within each respective MAJCOM. In the case of Altus, it served as the training base for Air Mobility Command's (AMC) C-141B and C-5 aircraft.

AETC was the vision of then Air Force Chief of Staff, General Merrill McPeak. The goal of the new training command would be to produce students from the new command that did not need expensive on-the-job training or specialty training that had to be provided by the gaining MAJCOM before they began to function in their respective specialty (Casey, 1994: 14). It was under this goal that the Air Forces entire training system was reviewed and eventually transformed into AETC.

## Problem Statement

This paper will examine how AETC is performing the mission that it was charged to complete almost four years ago. Specifically, the paper will examine how the 57th Airlift Squadron (57AS) at Altus AFB is performing its mission of training mission-ready C-141B crewmembers.

## Research Objectives

The objective of the research is to provide a 'snap-shot' of the ability of AETC to meet its primary goal of producing mission ready students. The broad spectrum of training that AETC accomplishes makes detailed research into all facets of the mission time and cost prohibitive. To narrow the focus the paper will concentrate its research on the 57AS. With the status of the 57AS established, some conclusion can be made about AETC's ability to meet its primary goal

## Research Questions

To establish how AETC is meeting its goal the following research questions will be answered.

1. What is the status of student production in the 57AS?
2. How has C-141 maintenance performed in AETC?
3. What is customer satisfaction rate since coming into AETC?
4. What is the impact of the civilian maintenance conversation?

## Graduate Research Paper Overview

The paper will begin with a brief historic perspective of the change the Air Force has undergone in the last seven years. With the historic prospective established as a basis, the evolution and timetable of the development of AETC will be provided.

The history functions of the 57AS will then be explained and detailed information will be given on the status of its current operation. A logical conclusion will be drawn from the information gathered to see if the 57AS is meeting the mission AETC established 1 Jul 1993.

From the conclusion of the 57AS' ability to meet its mission, a conclusion will be derived to determine if AETC is successfully meeting its goals.

# II. Historical Change in the Air Force

## The Cold War

The Cold War resulted from the outcome of World War II and the subsequent split in spheres of influence between the United States and the Soviet Union (USSR). These spheres of influence pitted the U.S. and its North Atlantic Treaty Organization (NATO) allies against the Soviet Union and its allies in the Warsaw Pact (Casey, 1994: 1). The U.S. national policy was very simple during the 40 years of the cold war, it was one of containing the communist threat. Prior to the Korean war this containment was in the form of massive retaliation with nuclear weapons. In essence the policy was one of mutual assured destruction where both sides understood that the other side possessed the ability to destroy them.

The nuclear option proved to be ineffective in limited wars like Korea and Vietnam. The national strategy changed to a flexible response strategy where the U.S. would meet the Soviet challenge anywhere on the spectrum of warfare, from simple propaganda to all out nuclear war. The U.S. formed several alliances around the world that formed a perimeter around the USSR and the other communist centers of powers. With American installations in each of the countries the U.S. strategy was to physically stop the expansion of communism (Fogleman, Maxwell AFB, 1996).

The Air Force built its forces and structure around the cold war. The Air Force had large numbers of bombers on alert that could attack anywhere in the world at anytime. Along with the nuclear bombers, the Air Force and the entire DoD had large

number of personnel forward deployed around the world. These forces were responsible for maintaining the containment policy held at the time, with the forward deployed personal required to staff the installations all around the world (Fogleman, Maxwell AFB, 1996).

The DoD's budget was less difficult to calculate sense it was based on defeating the communist threat where ever it appeared. This was most apparent during the time period that President Reagan was in office. Secretary of Defense Casper Wienberger has very effective at ensuring the adequacy of the DoD budget. Wienberger was able to directly tie a Soviet threat to every portion of the DoD budget. This allowed him to effectively defend the DoD budget against an often partisan Congress by showing the Congressional members exactly what capability the U.S. would not have in order to defend itself against a specific Soviet threat. The brilliance of this approach was that it forced the Congressional members to accept the responsibility of defending the nation. If the Congress did not except the budget, then they were forced to explain to the constituents in their local districts how the U.S. military could not defend the public against the Soviet menace. Rarely during the early Reagan years could Congress stand the political backlash that going against the DoD budget would create (D'Angelo, 1996).

## The Soviet Decline

The Soviet threat was the center piece of the national strategy for more than four decades. The end of the 1980's would prove to be very difficult for the Soviet Union for a number of reasons. The two most significant reasons combined to change the relationship between the U.S. and the Soviet Union forever. First, the large military

buildup and modernization of the U.S. forces that occurred during the Reagan years forced the Soviet Union to try to compete on the same level. Combining with the U.S. buildup was the second significant reason, the weak economy of the Soviet Union. The Soviet Union's economy did not allow them to compete with the U.S. buildup and their attempt to modernize their own forces on the same level as the U.S. caused irreparable damage and ultimately failure (Casey, 1994: 1).

The Soviet Union's ability to control the events inside the countries of Eastern Europe began to diminish rapidly in 1989. Hungary was the first country to break the ranks of the Warsaw Pact nations. The Hungarian parliament passed laws which allowed a multi-party political system to operate where only a single communist party had been allowed before. As the year passed nation by nation in the Eastern Bloc began to challenge the Soviet domination. One year after Hungary started the events in motion the nearly complete Soviet domination of the Eastern Bloc had collapsed. This collapse was complete in 1991 with the dissolution of the Warsaw Pact (Casey, 1994: 1).

With its allies no longer under the influence of the Soviet Union, the unrest began to spread to a number of the republic within the USSR itself. In 1991 the communist party broke apart followed later that year with the formal dissolution of the Soviet Union. From these events the direction of the U.S. national strategy changed dramatically and with that change the entire DoD would change as well (Casey, 1994: 2).

## The Collapse's Effect On The U.S.

The collapse of the Soviet Union and the diminished role it could play on the world political stage had a profound effect on the United States. As significant as the

Soviet collapse was, this was not the only thing that changed the policies within the U.S. Coincidental to the fall of the USSR a substantial amount of political pressure was coming to a head to reduce government spending by the federal government of the United States (Casey, 1994: 2).

The political reality of the loss of the Soviet threat was not the only aspect that the Air Force and the DoD in general had to deal with. The historical precedent of the nature of the U.S. military was coming into focus again. Historically the U.S. had always been a nation that relied on the mobilizing of forces in times of crisis to augment a small number of full-time soldiers. After the crisis was over, the forces would be demobilized and returned home. This precedent has run through the entire history of the United States, from the civilian militia of the Revolutionary War through the Vietnam Conflict (Fogleman, Maxwell AFB, 1996).

The Cold War would be no exception to this historical precedent of demobilization. With the perceived threat of the Soviet Union gone the pressure from Congress and other interest groups began to grow on the military to down size. In addition to this pressure from Congress, the economy was growing sluggish with occasional spikes in inflation, unemployment, and less than stellar productivity in key industries (Casey, 1994: 2). The DoD budget became a prime target as the cumulative effect of all these pressures was felt. The American public and politicians began to clamor for the 'peace dividend' to be spent on more appropriate projects than on the military.

The push to reduce the military was delayed in the summer of 1990 because of political developments that occurred in the Middle East. On 2 August 1990 Saddam Hussein of Iraq overran Kuwait when talks broke down over territorial and financial claims (Casey, 1994: 2). President Bush responded quickly and ordered U.S. troops to the Gulf on 7 Aug 90 in what became known as Operation Desert Shield. This deployment was one of the largest in U.S. history. In terms of fighters, more squadrons deployed quicker than in any other time in recent history, a total 25 fighter squadrons flew non-stop to Saudi Arabia with the first squadron arriving 34 hours after the President giving the deployment order (McPeak, 1995: 16).

These fighters did not deploy in a vacuum, on the contrary there were more than 300 tanker aircraft providing air refueling to the fighters as they flew non-stop across the world. In addition to the air refueling support, the airlift support provided to these fighter units and the rest of the DoD has never been equaled in aviation history. To put it in to context, the airlift support required to move an army halfway around the world was roughly equal to moving all of Oklahoma City, its people, its vehicles, the food, and all the household goods halfway around the world. In terms of past military airlift operations when a comparison is made between Operation Desert Shield and the next largest airlift operation, Operation Vittles, or the Berlin Airlift, the airlift provided in Operation Desert Shield moved the equivalent of the Berlin Airlift every six weeks (McPeak, 1995: 17).

The build up of forces continued for more than five months. During this time other Arab leaders and representatives from the United Nations tried in vain to persuade Hussein to peacefully withdraw from Kuwait. On 17 January 1991 the 26 nation

coalition began to attack Iraqi targets in both Iraq and Kuwait. The highly technical forces of the U.S. Air Force annihilated the Iraqi forces. Smart weapons and stealth aircraft proved to much for Iraqi ground and air forces, so much in fact that in only 100 hours of ground war, Iraq agreed to a cease fire and the desert war, Operation Desert Storm was over.

Operations Desert Shield and Storm along with the previous discussed budget pressure set the stage for the Air Force to undertake the largest change in its structure since the Air Force was formed as a separate service in 1947 (McPeak, 1995: 52).

# III. The Air Force Restructures

## Reasons for Change

The events that occurred in the earlier 1990s caused a lot of turbulence in the Air Force and the entire DoD. The Secretary of the Air Force, Donald B. Rice and the Air Force Chief of Staff, General Merrill A. McPeak realized that the events discussed in chapter two had decidedly changed the course of what was happening in the world. They also new that the military structure of the last forty years was going to change as Congress continued to restrict the DoD budget. Deciding not to wait for mandated change by Congress, Rice and McPeak introduced a bold initiative to restructure the Air Force (Casey, 1994: 3).

General McPeak gave several reasons for taking the offensive in the restructuring of the Air Force. The largest reason given by McPeak was a substantial decline in the budget for the Air Force. When the announcement was made to change the Air Force structure in 1991 the Air Force had already endured six years of budget reductions. In addition to this forecast indicated that the entire defense budget would continue to decline for the next four years (McPeak, 1995: 52). The Air Force had also gone through two rounds of base closures with two more rounds of closures dictated by law to occur in the next four years. McPeak's intention was to restructure the Air Force to sustain the maximum combat capability as its size shrank by at least 25% (McPeak, 1995: 53).

Citing lessons learned from how Desert Storm was fought, the declining budget, and the historical precedent of the small standing forces, Rice and McPeak fashioned

their restructuring around five themes. The first theme was decentralization, where the power would be pushed down from headquarters out to the point where the actual work was being accomplished. Headquarters would continue to set policy, but day-to-day operations would be handled by the people who actually performed the job (McPeak, 1995: 53).

Strengthening commanders was the second theme. Using the overall concept that field commanders have the actual mission responsibility, and are held accountable for the results of the mission. McPeak insisted that the Commanders must have the authority to achieve the mission results (McPeak, 1995: 53).

The third theme was to streamline and flatten the Air Force structure. This would strengthen the chain of command within the Air Force, which was viewed by McPeak as basic structure of the Air Force (McPeak, 1995: 53).

The fourth theme was to consolidate where it was practical to do so. This would help with the streamlining efforts and also achieve economies of scale where it was practical to do so (McPeak, 1995: 53).

The last theme was to clarify functional responsibilities. By untangling certain staff responsibilities that have become obscure over time McPeak wanted to make sure the correct individual or unit was performing the correct function (McPeak, 1995: 53).

## Global Power/Global Reach

The entire restructuring would be formed around Secretary Rice's Global Power/Global Reach concept. On the wing level the reorganization took the form of "one base, one wing, one boss." The wing commander would command the entire wing

regardless of specific function. Detachments and geographic separated units would be a thing of the past (McPeak, 1995: 54).

On the Air Force level the restructure would have a dramatic effect. The Air Forces major commands would be reorganize and merged to unite similar roles and missions. The Air Force System Command and the Air Force Logistics Command would be merged into the Air Force Material Command (AFMC). This would give one command cradle to grave responsibility for all integrated systems support (McPeak, 1995: 86).

Military Airlift Command (MAC), Strategic Air Command (SAC), and Tactical Air Command (TAC) would be combined into two commands. The concept was to organize similar to the way we will employ during war. Air Mobility Command (AMC) would have the mission of worldwide mobility bring together the airlift forces from MAC and majority of tankers from SAC. Air Combat Command (ACC) would have the ability to perform integrated air operations with all the bomber and fighters along with regard support capabilities for modern air combat (McPeak, 1995: 86).

Several other changes occurred during this time period. Using the five themes previously discussed with the overarching Global Power/Global Reach concept the Secretary of the Air Force and Chief Staff fundamentally changed the way the Air Force performed it mission. One of the more significant changes by the Chief of Staff was changing the way training had taken place in the Air Force. This change will be discussed in detail in Chapter Four.

## Global Power/Global Reach becomes Global Engagement

Secretary Rice's and General McPeak's changes were not without controversy but for the most part they were successful. However, just as change caused the Air Force to redefine itself along the concept of Global Power/Global Reach, change has continued as time has passed. The current Chief of Staff of the Air Force, General Ronald R. Fogleman has further refined the vision and mission of the Air Force.

General Fogleman acknowledges the necessity that brought around the Global Power/Global Reach concept however he saw this as an interim step along to defining what the Air Force's post-Cold war strategy should be (Moorman, 1997). Because it was the first step after the Cold War Fogleman realized there were limitations with the Global Power/Global Reach concept. Several assumptions were made when the Global Power/Global Reach concept was being conceived. Many of the assumptions turned out to be correct, however some did not. The Air Force was trimmed a total of 36% instead of the proposed 25%. More U.S. troops were withdrawn from Europe and the far east than anticipated, making the entire DoD more dependent on global mobility than originally planned (Fogleman, Maxwell AFB, 1996). In addition to these unanticipated changes in the assumptions General Fogleman felt that the fatal flaw of the Global Power/Global Reach concept was the title. It was too much like a catchy bomber sticker and he felt that people easily disregarded the entire vision because of it (Fogleman, Maxwell AFB, 1996).

To correct the problems with the Global Power/Global Reach concept General Fogleman convened a long-range planning group that had two purposes. First the group

would come up with a long-range vision for the Air Force to follow. Second, the group would develop a plan of action that the Air Force would follow to institutionalize long-range planning within the Air Force. The leader of the group had 18 months to develop the plan and present it to all the Air Force four-star generals in the fall of 1996. The plan was approved by the four-stars and on 21 Nov 1996 General Fogleman unveiled his Global Engagement--A Vision for the 21st Century Air Force, to the entire Air Force (Fogleman, Maxwell AFB, 1996).

Global Engagement is built around six core competencies which represent the things that the Air Force does when they execute the functions of the air and space power. These core competencies are the combination of professional knowledge, air power expertise, and technological expertise that, when applied, produce superior military capabilities. When General Fogleman first announced the Global Engagement plan he represented the concept with an arch to symbolize the interrelation and dependence that each core competency had with another. If just one piece was missing then the arch would fall, see figure 1 (Global Engagement, 1996: 4).

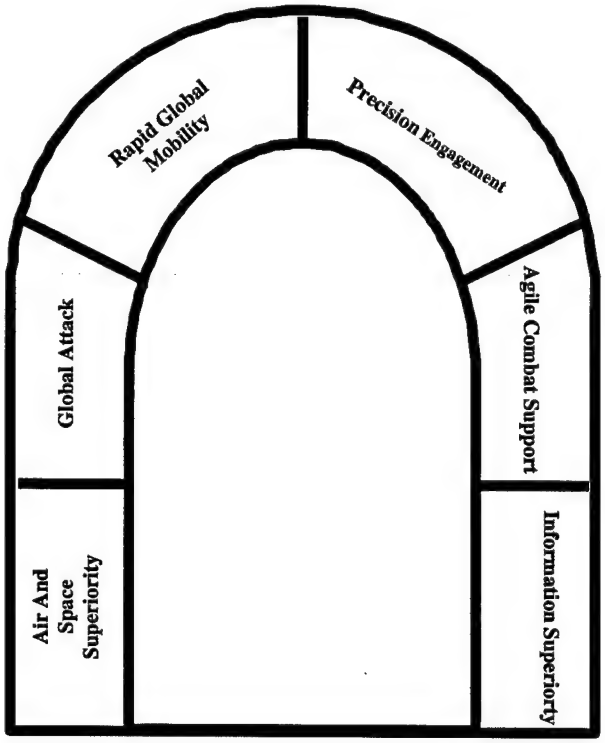


***Figure 1: Core Competency Arch***
(Global Engagement, 1996: 4)

The six core competencies represented in Figure 1 are the capabilities that the Air Force will require as it moves into the 21st Century. Air and space superiority provide our force freedom of action to attack where and when they choose. It denies the enemy sanctuaries and prevents adversaries from interfering with U.S. or allied operations (Fogleman, Washington DC, 1996).

Global attack has two aspects to it. The first is the U.S. forces stationed in the United States are capable of finding and attacking targets any where in the world within a matter of hours. The second is the expeditionary nature of the U.S. forces and the ability

to go forward any where in the world and provide sustained combat power (Fogleman, Washington DC, 1996).

Rapid Global Mobility is the key to going forward. The Air Force through airlifters and tankers give the senior leadership in the U.S. the option of quickly going anywhere in the world whether it is for peacekeeping or combat (Fogleman, Washington DC, 1996).

Precision Engagement is the ability to know exactly what is needed both on and off the battle field. It involves delivering anything from lethal ordnance to food and supplies anywhere it is needed (Fogleman, Washington DC, 1996).

Information Superiority will give the Air Force and the other service components the ability to find and track or attack anything of significance to the warfighting commander. By the first quarter of the 21st century the Air Force should be able to do this anywhere in the world (Fogleman, Washington DC, 1996).

Agile Combat Support involves the entire array of support activities. The goal of this competency is to make all support activities from "lean logistics" to force protection highly deployable with a small foot print so they are flexible and effective (Fogleman, Washington DC, 1996).

These six core competencies are how the Air Force plan to enter the 21st century. This plan is one of the continuing evolution of plans since the Air Force became a separate force. With each new plan whether it was Global Power/Global Reach or Global Engagement the direction of the Air Force has changed. Only time will tell if all the changes are effective.

# VI. Air Education and Training Command

## The Importance of Airlift

As the Air Force has changed in the last seven years one of the dramatic realizations has been the nations heavy reliance on mobility in general. The key to the nation's mobility is the ability to airlift almost anything anywhere in the world. General McPeak realized this when he developed the vision of Global Power/Global Reach. The Global Reach aspect of this vision was recognition of the fact that ability to reach any place in the world was vital to the Air Force and the rest of the nation (McPeak, 1994 p: 155).

As the new Air Mobility Command was activated 1 June 1992 the history of the airlift system was highlighted to demonstrate the importance to the United States the ability to move anything anywhere in the world. From flying the "hump" in World War II to the phenomenal airlift of Operation Desert Shield/Storm airlift has given the warfighters the flexibility to do what is necessary to successfully prosecute the will of the United States (McPeak, 1994: 147-148).

The importance of mobility was elevated in status when General Fogleman named Rapid Global Mobility on of the six core competencies that the Air Force would concentrate on as it moved into the 21st Century as discussed in Chapter 3. The following definition defines exactly what Rapid Global Mobility gives the United States:

> Rapid Global Mobility provides the nation its global reach and underpins its role as a global power. The ability to move rapidly to any spot on the globe

ensures that tomorrow, just as today, the nation can respond quickly and decisively to unexpected challenges to its interests.

As the number of forward-deployed forces declines and the need for immediate response to overseas events rises, the Air Force's global mobility forces will be in great demand by future joint force commanders. When an operation must be carried out quickly, airlift and air refueling will be the key players. Rapid Global Mobility may build an air-bridge for joint forces, enable multi-national peace efforts, or speed tailored support to forces already on the scene. Rapid deployment will remain the joint team's most reliable combat force multiplier. Fighter forces paired with precision weapons provide formidable capabilities that our mobility fleet can deploy worldwide and sustain at high in-theater sortie rates. In other cases, such as delivery of humanitarian relief, the rapid delivery of material is the focus of effort.

In the 21st century, Rapid Global Mobility will be multi-faceted. Better use of commercial carriers will be made to increase the efficiency of Air Force mobility. The speed with which forces are moved will increase, and airlift and air refueling capabilities must be able to deliver tailored forces operating with a smaller footprint. (Fogleman, Core Competency: Rapid Global Mobility, 1996)

In addition to Rapid Global Mobility, mobility is a key feature in another competency, Global Attack. The only way that our fighter forces will be able to strike anywhere in the world is to have mobility forces available to move them when required (Fogleman, Core Competency: Global Attack, 1996). Clearly with the evolution of the Air Force mission, mobility has become a recognized vital aspect of that mission. If the trend of withdrawing forces continues as expected then the ability to move the forces to anywhere in the world will become even more important.

## Where Mobility Begins

With the current and growing reliance on mobility its importance to the national stately. The cornerstone of the mobility machine, Altus Air Force Base, becomes very important as well. Altus AFB is the Air Force Base where almost all the training for the

crews of the mobility aircraft takes place. The mission of the 97th Air Mobility Wing (97 AMW) is: "Altus AFB is the U.S. Air Force's only Strategic Airlift and Air Refueling Training Center. The primary mission is to provide quality training to produce the finest combat-ready aircrew members for the United States Air Force." To accomplish this mission the goal of the 97 AMW is to send the students that they train back to their units as mission ready as possible (97 AMW Mission, 1997). The control tower on the Altus AFB flightline proudly proclaims "Global Reach Starts Here," acknowledging the significance of the vital role Altus plays in the Air Force's mission.

Altus AFB currently resides inside AETC. As mentioned in Chapter Three AETC was one of the organizational changes that the Chief of Staff General Merrill McPeak initiated. When General McPeak first reorganized the Air Force he left out the training piece of the Air Force. In 1992 he began to look at ways to improve the training in the Air Force as a whole. When the announcement was made to change the training system General McPeak stated several goals. First to increase the respect and stature of the new training command, the commander was made a four-star billet, making it equal to the other major commands in the Air Force. Second, it would continue McPeak's agenda of reducing the number of major commands in the Air Force when the new training command was formed, the number of major commands had been reduced from 13 to nine. Third, the advantage of making a single training and education command would give a single commander responsibility for the entire training and education effort (McPeak, 1995, p: 197).

## How AETC was Formed

General McPeak's reasons for forming AETC the process did not take place in a total vacuum. Indeed, late November 1991 General McPeak asked Lieutenant General Ashy the current commander of ATC to review the Air Force's training program in detail, in effect examine the entire training system in the Air Force with a clean sheet of paper (Casey, 1994: 5).

The results of the review showed a number of interesting things. First there was a large disconnect between training and education. It was entirely dependent on career field and MAJCOM the individual was assigned. Second, most training was all started in ATC, however, the other MAJCOMs performed almost all the follow-on training for all career fields. Third, there was almost no standardization in how the enlisted force progressed through formal education and training, it was entirely dependent on MAJCOM and career field (Casey, 1994: 6-10). These were some of the significant problems that Lieutenant General Ashy showed General McPeak when the training review was completed.

When General McPeak reviewed General Ashy's finding he gave him another tasking. Lieutenant General Ashy's next task was to create a better education and training structure that would mesh with the recently reorganized Air Force (Casey, 1994: 12). General Ashy formed a group composed of senior staff members to review all the options available and formulate a list of alternatives to give General McPeak.

The group developed four alternatives for General McPeak and they were reviewed by all the four-star officers in February of 1992. The options were as follows:

1. Retain the existing ATC structure, however, use the decentralized managerial structure spelled out earlier in Global Power/Global Reach give the Wing Commander more authority to accomplish the training mission.

2. Merge all training and education and training into one command, including the Air Force Academy. This would mean that Air University (AU) and ATC would be merged into one command.

3. Expand ATC to include all initial aircraft qualification training for all aircrew members prior to their assignment to an operational unit.

4. This option was the combination of the first three options that would ultimately produce a training command that would turn out mission-ready personnel. (Casey, 1994: p 13)

After review by General Ashy, he recommended to General McPeak that the third option be selected additionally he suggested that AU and ATC be merged. General McPeak accepted the proposal and on 24 Feb 92 the vice commanders of all the affected MAJCOMs to comment on the plan by 25 Mar 92. They were to focus on items like force structure changes, manpower alterations, costs, construction requirements, and the advantages and disadvantages of the possible changes in training (Casey, 1994: 17).

With this focus the MAJCOMs reviewed the proposal. There were several questions by all the commands but for the most part it was agreed that the new training command would be a worthwhile thing to do. From the MAJCOM's perspective it was a way to focus their time and resources to the combat mission at hand, since the new training command would produce mission ready assets. The other benefit is it would provide a more seamless training system that would be more cost effective and produce better trained assets for the MAJCOMs (McPeak, 1995: 198).

## AMC's Reaction

AMC began addressing the problem of moving the school house at Altus into the new training command. There were problems developing as AMC began developing long-range plans to consolidate as much airlift training as possible to Altus. There were a lot of options developed concerning bringing the C-130 operation to Altus to join the existing C-141 and C-5 operations already there. Ramp space at Altus along with airspace problems were the chief concerns. To complicate the issue Altus also was the proposed training site for the newest airlift aircraft the C-17 (Casey 1994: 21).

These problems aside on 30 March 1992 HQ MAC announced their support for option 3. They supported placing crew training into the new training command (Casey 1994: 21). The next problem was to decide what to do with the other aircraft in MAC. As discussed in Chapter Two, MAC was under going its own transformation. KC-135 Refueling aircraft were coming into the soon-to-be formed Air Mobility Command. In addition to this, the training base that contained the KC-135 school house was scheduled for closure by the 1993 Base Realignment and Closure Committee. Also the problem of what to do the C-130 operation continued to plague MAC. Through much consideration it was decided that the C-130 operation would remain where it was, located at Little Rock AFB. The KC-135 operation would be moved from Castle AFB and instead of going to Fairchild AFB, the 135s would replace the existing operational 135s located at Altus. The move would make Altus the single large aircraft base in the new training command. Altus would truly be the cornerstone for the mobility machine with the training for all strategic mobility aircraft taking place there (Casey 1994: 47).

Along with the concerns about where to place aircraft AMC voice other general concerns about the transfer. In a briefing given to senior officials at AMC by the AMC/XPPF office the following concerns surfaced:

1. Curriculum input and oversight.
2. Retain centralized schoolhouses.
3. Contractor oversight and management.
4. Management of personnel issues.
5. Operational perspective
6. War/contingency access
7. ATC Accountability for funding

(AMC/XPPF Briefing, 1992)

In detail the concerns of each were as follows:

1. Curriculum input and oversight: AMC wanted involvement in all stages of curriculum development. In addition, AMC wanted ATC to provide them with feedback on any changes that occurred. AMC also wanted approval of all course training standards to ensure AMC's ability to continue its mission.

2. Retain centralized schoolhouses: AMC wanted to continue the economies of scale by using one central schoolhouse for all formal training. AMC also sought to continue to do all initial training at the schoolhouses, and maximize the amount upgrade training done at the schoolhouse. By performing the upgrade training at the schoolhouse AMC sought minimize the amount of time and assets that AMC units would have to devote to training, allowing the units to focus almost entirely on the mission.

3. Contractor oversight and management: AMC wanted to ensure that ATC was responsible for the overall quality of training delivered by contractors at the schoolhouses. This included courseware development and simulator operations. The schoolhouses used contractors for classroom and simulator instruction and quality control

was essential for continued successful operation. AMC also wanted ATC to develop a feedback mechanism back to the MAJCOMs on the quality and usefulness of contractor training.

4. Management of personnel issues: Traditionally AMC had always had difficulty finding volunteers to fill the schoolhouse assignments. AMC wanted to ensure that ATC continue the incentives for the instructors at the schoolhouses. This would include preferred assignments for instructors departing the schoolhouse and a recognized career pattern that included a schoolhouse assignment. ATC had to be able to attract the best qualified candidates to instruct the future aircrews of AMC.

5. Operational perspective: Instructors must be able to instruct the students with an operational attitude and an understanding of AMC's operational mission and how the students will contribute to the mission. To ensure this, schoolhouse instructors must abide AMC operational regulations so that all graduates are mission ready without any in-unit retraining occurring when the graduates reach their final units. The schoolhouse instructors should continue to have exposure to the operational system while assigned in ATC. The exposure will allow the instructor to stay current with the mission of AMC and relate with the students on a real-world level of how the students will impact that mission.

6. War/contingency access: AMC learned valuable lessons from the Gulf War, they called on the highly skilled schoolhouse instructors and other support personnel, in addition to aircraft to help them complete the wartime mission. For future contingencies ATC would be required to give assets to AMC to ensure successful mission completion.

AMC also wanted ATC to have the ability to increase the training tempo in the case of a protracted war. This would allow AMC to keep the required number of aircrews available to complete the mission.

Schoolhouse aircraft usually sustain greater wear and tear on the airframes than normal line aircraft receive while they are on peacetime operational missions. In order to keep the fleet service life roughly equal, AMC wanted to continue rotating aircraft through the schoolhouse.

7. ATC Accountability for funding: ATC would now have responsibility for their portion of the heavy aircraft fleet. This would include programmed maintenance and depot level repairables. ATC would also have to provide AMC visibility over training funding for the mobility training portion of the ATC budget (AMC/XPPF Briefing, 1992).

To ensure a smooth transition to the new training command AMC and ATC wrote a detailed Memorandum of Agreement (MOA) for the Transfer and Operation of Flying Training Units and Formal Training Schools. The purpose of the document was to come to a mutual agreement on the issues that AMC raised and several others that began to develop as the transition date moved closer. The stated purpose of the document was to "facilitate an orderly reassignment of flying training units and formal training schools from AMC to AETC," (AMC/AETC MOA, 1993: 1). The MOA provide a comprehensive document that contained 23 annexes that dealt the complete transfer of the units to AETC. The overarching goal of the transfer was stated as the Training Mission Statement: "AETC will be the proponent for all formal training that supports AMC

mission requirements. Close coordination will be required between the commands to ensure a student is mission ready when he arrives at his operational unit," (AMC/AETC, MOA, 1993: 1).

Along with the MOA between AMC and AETC, AMC developed another document to help the command transfer the training assets in their command over to the new training command. This document, AMC Programming Plan (PPLAN) 93-11, Transfer of Flying Training Units and Altus AFB to Air Training Command. As with the MOA the overall objective of the PPLAN was to transfer the formal training units, formal training schools, and Altus AFB to AETC (PPLAN 93-11, 1993). The difference between the PPLAN and the MOA was that the PPLAN contained specific actions for AMC and AETC to accomplish in order to make the transfer to go smoothly. The MOA was an agreement in more general terms of accountability of actions. Both however, serve the same goal, that is to produce mission ready students before they report to their operational mission.

These efforts along with many came to conclusion 1 July 1993. On that day General McPeak redesignated HQ ATC to HQ AETC. In addition to this the entire new command was stood up including two new numbered air forces Nineteenth Air Force (19AF) and Second Air Force (2AF). 19 AF contained the flying units of AETC and 2AF contained all the technical training bases. The new commander of AETC, General Viccellio, commenced a whirlwind tour of AETC and performed three separate opening ceremonies around the command. General Viccellio opened a new era in the history of

Air Force education and training, one command dedicated to preparing the Air Force and its people for the challenges of tomorrow (Casey, 1994: 78).

# V. AETC's Performance

## AETC's New Structure

It has been nearly four years since AETC, the training command for the United States Air Force, was activated. The primary goal of the Air Force Chief of Staff, General McPeak, was to form a command that produced mission qualified students before they reported to their operational units (Casey, 1994, p: 14). This chapter will examine how AETC is performing meeting the primary goal. To evaluate AETC the chapter will focus on the 57AS at Altus AFB. To do this successfully the structure of AETC will be examined to understand the environment that both Altus AFB and the 57AS exist in. Once the structure is examined the performance of the 57AS will be reviewed.

The headquarters for AETC is located at Randolph AFB near San Antonio Texas, as stated earlier it was established 1 July 1993. The mission of AETC is to develop and grow Air Force people through selective recruiting, thorough training and comprehensive education (AF Missions, 1997). It is important to realize that every member of the Air Force, all officers and all enlisted personnel receives training administered by the command (USAF Fact Sheet 95-11, 1997).

AETC performs this mission as it attempts to attain the stated goals of the command. Currently AETC maintains six goals to focus the command's attention on the mission. All the goals strive to meet General McPeak's primary goal of producing mission ready graduates for the operational commands, however the first goal directly relates to this objective. The goal states AETC will "enhance Air Force capabilities through excellence in recruiting training and

education," (AETC Goals, 1997). To further define this goal it is broken down into four distinct subgoals. The subgoal of interest is "provide quality, responsive training and education, producing mission ready graduates for our customers (Enhance Goal, 1997). For the purpose of this study the customer is AMC in general and the C-141 units specifically since the 57AS is the C-141 training unit for AETC and the Air Force.

AETC includes two numbered air forces, the Air University, Air Force Recruiting Service, and Wilford Hall Medical Center (USAF Fact Sheet 95-11, 1997). As discussed in the previous chapter 19AF is responsible for the flying operations in AETC and it is this structure that will be discussed in this chapter. The other areas of AETC are beyond the scope of the intent of this paper.

19AF is also headquartered at Randolph AFB, as discussed earlier it was also activated along with AETC on 1 July 1993. 19AF exercises operational control over 12 active duty units, of which Altus AFB is one, and operational oversight over two Air National Guard units. AETC through 19AF conducts primary and advanced flight training for pilots, navigators and enlisted crew members (USAF Fact Sheet 95-11, 1997). These training programs produce mission ready crew members for the operational commands.

To keep the subordinate units moving in a uniform direction 19AF guides it self with the following five part statement:

- Provide clear, concise execution guidance to subordinate units
- Assess compliance with Command policies and directives
- Ensure standardization of training and evaluation
- Oversee execution of 19th Air Force training program
- Provide assistance to ensure all training goals are achieved
  (19AF Mission, 1997)

This mission statement coincides directly with that of AETC. The operations function oversees the flying operation for AETC (Casey, 1994: 74). Specifically it is the Training function within operations that handles these tasks. The functions of the training office (19AF/DOT) are as follows:

- Manage flying hour allocation and execution
- Oversee student training pipeline for officer and enlisted aircrews
- Develop and execute course training standards and syllabi review processes
- Prepare and brief operation training management review
- Conduct student attrition analyses
- Oversee continuation training programs
- Augment Standardization/Evaluation teams as required
  (19AF/DOT Functions, 1993)

The function of 19AF/DOT is critical to the success of the number one goal of AETC. Each subordinate unit has DOT function that works directly with the numbered air force.

From Headquarters AETC through 19AF down to Altus AFB and the 97 AMW each level has the same primary goal. In the case of the 97 AMW, as stated in Chapter One, the mission is to provide quality training to produce the finest combat-ready aircrew members for the United States Air Force (97 AMW Mission, 1997). This continuity of mission is the backbone of the structure that supports the flying operations in the entire command.

In addition to the continuity of mission the structure of the command itself supports the flying mission. General McPeak's theme of decentralized power enables 19AF and its subordinate units to better accomplish the task at hand.

## Altus AFB

Altus AFB has been located near Altus Oklahoma since 1942. It was initially part of the Army Air Corps and served as an advanced flying school during World War II until it was inactivated in May of 1945. The base was reactivated in 1953 as part of the United States Air Force and was part of TAC. For the next 15 years the base moved from one command to another and it was in 1968 when MAC assumed control of the base. May of 1969 C-141 training commenced for the first time at Altus AFB (Altus AFB History, 1997).

Since the day of the first 141 operations the base has continued to change. Every change that the Air Force went through while General McPeak was Chief of Staff and discussed in chapter two impacted operations at Altus. Currently, as discussed earlier Altus is the home of the Air Force's only strategic airlift and air refueling training center. In this capacity it contains the training facilities and personnel for the C-5, C-17, KC-135, and C-141 aircraft (97 AMW Mission, 1997).

## 57 Airlift Squadron

The history of the 57th is similar to that of the 97 AMW. It began in World War II when it was activated as the 57th Troop Carrier Squadron in Nov 1942. It was initially equipped with C-47 and B-17F aircraft and participated in offenses in the south Pacific. From 1946 to 1965 the squadron was deactivated and reactivated several times until in 1965 the 57th was reactivated at Tinker AFB, Oklahoma. It was at Tinker when the 57th began training with the C-141 aircraft. In 1967 the squadron moved from Tinker AFB to Altus AFB and has been the Air Forces primary C-141 training squadron ever since. The 57th has varied in number of personnel in the

squadron, currently there are 150 personnel assigned to the squadron with an instructor aircrew force of 22 aircrews (57AS History, 1997). The C-141 is currently being retire from the Air Force inventory, however the operation in the 57AS will continue into the 21st century.

To guide the activities of the 57AS the squadron performs the following mission: "Through professional combat ready aircrew training--flight scheduling, ground and flight training, evaluations, and support services--provides AMC, Air Force Reserves (AFRES), and Air National Guard (ANG) units with the highest quality C-141 aircrew members (HQ AETC IG Report, 1997). To fulfill this mission the instructors of the 57th instruct 16 different course to all levels of students. The courses are as follows:

Copilot Initial Qualification
AC Initial Qualification
AC Requalification
AC Air Refueling
Instructor AC Air Refueling
Navigator Initial Qualification
Flight Engineer Initial Qualification
Loadmaster Initial Qualification
(97 OSS/DOT, 1997)

Aircraft Commander (AC)
Instructor AC
AC Airdrop
AC Formation Air Refueling
Senior Officer Course
Navigator Formation Air Refueling
Instructor Flight Engineer
Loadmaster Airdrop

## 57 Airlift Squadron Performance

In order to determine how the 57AS is performing the following areas will be reviewed. First student production will be reviewed. When accomplishing this review the on-time graduation rate of students found in appendix A, will be examined to note any trend or deviations in the rate. This will indicate how well the 57th is meeting the projected student throughput. Also the student evaluation results will be examined to see how well students are meeting AMC standards. This will indicate the quality of student that AMC is receiving.

From student production the 57AS maintenance record will be reviewed. To do this the data in appendices two, three and four will be reviewed to note any trend in maintenance areas. Any correlation will be noted where possible between maintenance and student production.

Customer satisfaction will be reviewed following the maintenance review. From this how well the customers are satisfied will be obtained.

Following the review of the squadron the new maintenance conversion will be reviewed. Altus has recently changed the from Air Force maintenance to civilian maintenance performed by the Civil Service. The impact of this change will be reviewed to note any change on student production.

With all the data available reviewed a conclusion along with recommendations will be drawn in the following chapter.

***Student Production***

All figures discussed in this section can be found in appendix one. The graphs are discussed in order of appearance in the appendix.

Copilot and AC initial qualification has been 100% for almost 3 1/2 years (see Figure 4). The only month where there was any deviation was Oct 96. This coincides with the first month that the new civilian maintenance started. This change will influence almost all the data under review (97 AMW Registrar, 1997).

For all remaining pilot courses, the on-time graduation rate has sometimes been lower than 100%, with a low of 50% in Jan 94 (see Figure 5). It is important to take into account the number and diversity of classes that are in this category. For instance, the classes included in the data represented in Figure 5 are the Aircraft Commander, Instructor, Air Refueling,

Requalification, Airdrop, Formation Air refueling, and Senior Officer courses. Two reasons for late graduations are evident: The first trend is the same as the copilot deviation, the start-up of civilian maintenance caused a deviation in rates to occur. As with the Copilots the trend corrected itself and the rate returned to 100% (97 AMW Registrar, 1997).

Second, the Airdrop and Formation Air Refueling classes require more than one aircraft to be available in order to complete each mission profile. In the case of Airdrop a minimum of two, with a requirement of three, aircraft are required to perform each mission. For Formation Air Refueling two aircraft (this will be changed to three), are required to complete each mission. As the number of aircraft for each event increases, it becomes less likely that students will complete on time. This will be further illustrated when the maintenance data is discussed. Low mission capable rates make training that involves multiple number aircraft formations more difficult to complete on time.

The on-time graduation rate for Navigators initial qualification is 100%, although absence of data indicate that no students were trained in some months (see Figure 6). Interestingly, the civilian maintenance conversion did not affect this training, which will be discussed in detail at the end of this section (97 AMW Registrar, 1997).

In all but three months depicted the Flight engineer initial qualification (see Figure 7) graduate on-time. The random nature of the of the deviations for the Flight Engineers mean that no single cause is responsible for the deviations. As with the Navigators the maintenance conversion did not affect the Flight Engineers. (97 OSS/DOR, 1997).

The 100% on-time graduation rate continues for the Instructor Flight Engineers (see Figure 8) the Loadmaster Initial qualification (see Figure 9). Like the navigators lack of data

indicates that no students were available to graduate. As with the navigators the maintenance conversion had no effect on this class (97 OSS/DOR, 1997).

The maintenance conversion caused a zero percent for the Loadmaster Airdrop (see Figure 10) on-time graduation rate in Oct 96. All other months with no data indicate no students available to graduate. Like the pilots discussed earlier, the multiple-aircraft formation caused the problems for the Airdrop Loadmasters as well (97 OSS/DOR, 1997).

A primary reason for the deviations showing up in the pilot and copilot data and the relative lack of deviations in any other aircrew positions is the fact that all the other crew position classes are scheduled around the pilot/copilot courses. Pilots and copilots represent the longest completion times as far as total events and length of courses are concerned. Schedulers develop the flying schedule around the pilot/copilot events and mesh the remaining crew positions around that schedule. Anything that happens to lengthen a pilot/copilot course has the potential to cause a late graduation. The other classes have enough slack in the schedule to absorb a delay if it occurs (Capt Smith, 97 OSS/DOT, 1997).

The next area of review is the student evaluation results. The evaluation pass rate for the students is shown with the following chart.

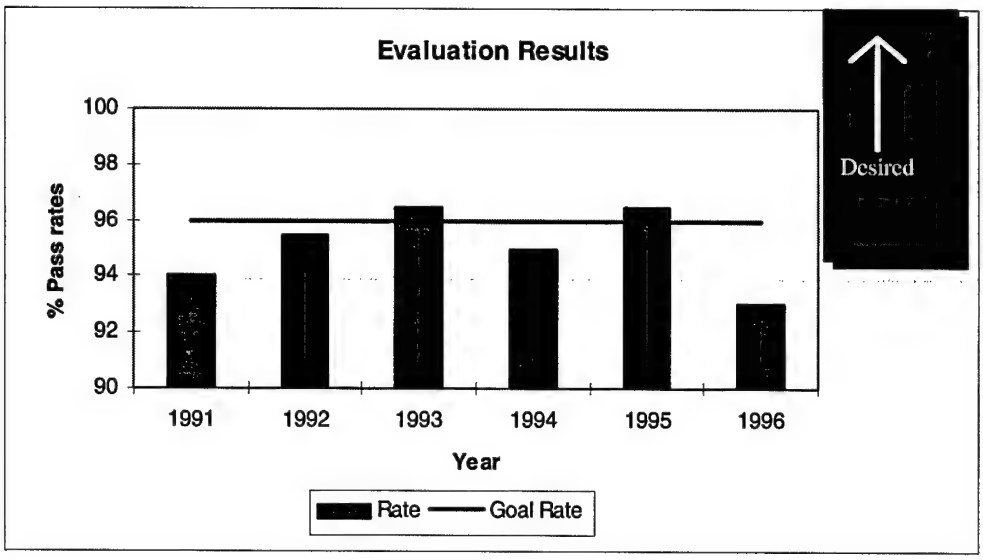


***Figure 2: Evaluation Pass Rate***
(97 OG/OGV, 1997)

Since coming to AETC the trend of the evaluation results is slightly negative which is not a good indication in the long term; however, the overall pass rate remains high. There was no data available to the author to show month by month numbers to determine if the civilian conversion caused any of the deviation. The goal for student evaluations is 96% in the last two years the average was 94%, this is from Feb 95 through Feb 97. It should be noted the overall average for the data is slightly greater than 95%, which is only slightly lower than the goal rate. The criteria for the evaluations are determined by the customer, in this case AMC.

### *Maintenance Performance*

Maintenance performance will be reviewed using the data in appendices C, D, and F. Each appendix reviews specific items in C-141 maintenance operations that occurred in the past years. For the definition of maintenance terms being used please refer to the summary of terms and formulas in appendix B.

Maintenance tracks records for the 141 fleet at Altus for two years. Each figure in appendix two represents a specific performance indicator for the maintenance force. This data is kept by maintenance to judge how they are performing and detect any adverse trends as they occur. Shown with each figure, where appropriate, is an arrow indicating the desired direction of trend for the performance indicator.

The overall health of the C-141 maintenance as shown by the data in appendix C has been declining since coming into AETC. All the reasons for this are not clear, the trends in the majority of the data indicate that the maintenance conversion had an adverse impact on the aircraft maintenance and this in-turn has caused the negative fluctuations in student production. The impact of the maintenance conversion will be evaluated in-depth in a following section.

The trend for the possessed hours versus possessed aircraft graph (see Figure 11) shows that both are going down. The spike in both in Dec 96 and Jan 96 was in order to recover from the three prior months. The surge in flying allowed most students to graduate on time. The reason for the reduced flying in Oct and Nov 96 will be discussed in a following section.

Figures 12, 13, and 14 all deal with capability rates and are consequently tied to one another. The Mission Capable (MC) rate (see Figure 12) is below the AETC desired goal rate and it is moving in the wrong direction. As the definition in appendix five states, MC rate is the sum of all the fully mission capable and partially mission capable aircraft. The maintenance conversion has caused this rate to fall. This is confirmed when the Fully Mission Capable (FMC) rate (see Figure 13) and the Partially Mission Capable (PMC) rate (see Figure 14) are reviewed. The FMC rate has dropped dramatically since the maintenance conversion to the lowest point depicted, while in same period the PMC rate has risen. Fewer FMC aircraft have resulted in

more PMC aircraft. The total as shown in the MC rate is lower than any where else in the data. This is clear indication that the health of the 141 fleet is declining since the maintenance conversion.

Figure 15 and 16 are similar type of graphs, the line that shows the total on each graph which is the sum of the two vertical components of the graph below. In both cases the trend is negative compared to the desired direction of the AETC goal. The maintenance conversion has caused both the Total Not Mission Capable Maintenance (TNMCM) rate (see Figure 15) and the Total Not Mission Capable Supply (TNMCS) rate (see Figure 16) to be greater than any other point for the last year. The TNMCM rate is higher than the desired AETC goal rate and increasing. The TNMCS rate is below the AETC goal rate but the trend since the maintenance conversion is dramatically increasing. If the TNMCS rate continues at the present trend since the maintenance conversion it will exceed the AETC goal rate shortly.

Figure 17 demonstrates the dramatic reduction in number of sorties scheduled and flown over time. The actual number of sorties required has been reduced because the size of the 141 fleet is growing smaller. However the maintenance conversion has reduced the number of sorties as well. Figure 17a, the last six months of the graph will be discussed in detail in a following section.

The average for the Sortie Scheduled Effectiveness rate (see Figure 18) has been lower since the civilian conversion of maintenance. The trend in is currently negative in both direction and when compared to the desired AETC goal. In the last month, from Jan 97 through Feb 97 the rate increased; however it was not enough to reverse the overall negative trend and the rate is much lower than the desired AETC goal.

The maintenance conversion has not caused the Break rates (see Figure 19) to increase. The rate is currently greater than the desired AETC goal rate; however, in the last six months the trend indicates an improving rate and if continued will be better than the AETC goal.

The 12 Hour Fix rate (see Figure 20) fell below the AETC goal rate following the maintenance conversion; however it has improved since Jan 97. The overall trend is very slightly negative in both overall direction and when compared to the AETC desired goal.

In the last two months the Late Takeoff Due to Maintenance rate (see Figure 21) has improved and that is a positive change since the maintenance conversion. The overall trend in the rate is almost neutral and the maintenance conversion did not significantly impact it.

The trend for the Maintenance On-Time Takeoff rate (see Figure 22), overall data is also relatively neutral, and after dipping after the maintenance conversion the rate has met the local goal, and is definitely improving. Figures 21 and 22 are related and the level nature of both trends confirm the relationship.

Figure 23 and 24 are both related to the maintenance organization's ability to provide an aircraft for a given sortie. The slight negative trend in Maintenance Effectiveness rate (see Figure 23) has improved slightly since the maintenance conversion. The Maintenance Non-Delivery rate (see Figure 24) actually dropped when the conversion took place in Oct 96, however it has been increasing ever since Nov 96. In addition, the overall trend is negative with respect to desired direction of the rate.

The Cannibalization (Cann) rate (see Figure 25) has an overall positive trend compared to the AETC desired goal. The rate has been better than AETC goal since Aug 96, and even with a

slight rise in the rate last month the trend remains positive over time when compared to the AETC goal rate.

The Abort rate (see Figure 26) is above the AETC goal rate, and the maintenance conversion has had little effect on the trend shown in the entire data group, which remains fairly neutral. The Abort rate has stayed above the desired goal and the trend of the data is negative when compared to the desired AETC goal.

The number of Repeating and Recurring Write-Ups (see Figure 27) are decreasing over time and the average of the rate since the maintenance conversion is lower than any other six month period shown. In addition the total number of each kind of write-up has a positive trend with respect to the desired direction of the rate.

***Fiscal Year Comparison of Maintenance Data***

Moving to appendix D, this data shows the maintenance performance in the last 3 1/2 fiscal years (FY) starting with FY 94. FY 94 represents the first full year of Altus AFB in AETC. As with appendix two, the arrows beside each figure represent the direction of the desired trend. In every case the trends shown in associated graphs in appendix are amplified in appendix three. The difference is that appendix three shows the information over a longer period of time. It is very clear that since coming to AETC, the overall quality of maintenance has fallen.

The Possessed Hours versus Possessed Aircraft (see Figure 28) shows the trend discussed from Figure 11, the general decrease in both hours and aircraft started after reach a high in FY 95. This trend shows the declining number of aircraft required to accomplish the mission as the C-141 is retired from the Air Force.

The MC rate comparison (see Figure 29) shows the same trend as Figures 12 and 13. The Mission Capable rate has dramatically fallen since the maintenance conversion from constantly being above the AETC Goal to falling below.

The TNMCM rate (see Figure 30) shows the rate has increased FY 95 and has risen steadily since the AETC transfer. The trend has continued to increase since the maintenance conversion sending the rate well above the AETC goal with no sign of changing direction.

The TNMCS rate (see Figure 31) has fluctuated over the years but has always been better than the AETC goal. What it important to recall is the rate has dramatically increased in the last three months as shown in Figure 16. If this increase continues the rate will go above the AETC goal in FY 97.

Planned versus Scheduled Sorties (see Figure 32) graphically shows the decrease in sorties in the last four years. The total decrease for FY 97 is not known at this time; however, if the number of sorties in the last three months is any indication of the year's total the overall trend of decreasing total number of sorties will continue.

The Sortie Scheduled Effectiveness rate (see Figure 33) shows an overall decrease in the rate since FY 94 and the transfer to AETC. Since FY 94 the rate has been below the AETC goal rate and the maintenance conversion has kept this rate decreasing.

The Break rate comparison (see Figure 34) shows a fluctuating rate in the last 3 1/2 years. The rate increased from FY 94 until reaching a high point in FY 96. The overall trend of the data is increasing and is presently above the AETC goal rate; however, as shown in Figure 19, the rate has recently improved and may go improve to a rate better than the AETC goal.

The 12 Hour Fix rate (see Figure 35) trend in is negative when compared to the desired AETC goal rate. The rate has decreased since FY 95 and currently is lower than it has been for the entire depicted time period. It should be remember from Figure 20 that the rate has improved in the last month.

The Late Takeoff Due to Maintenance rate (see Figure 36) indicates that the rate has increased since coming into AETC. The trend shows the level nature of the data that occurred in Figure 21, but since FY 94 the rate has overall increased in the wrong direction. The same can be said of the Maintenance Effectiveness rate (see Figure 37). This rate has decreased since coming into AETC. The rate is lower than it has ever been in FY 97 and the overall trend is negative in the last 3 1/2 years.

The Maintenance Non-Delivery rate comparison (see Figure 38) shows an overall increase in the rate since FY 94 and the AETC transfer. The rate has nearly double since the maintenance conversion took place in FY 97. The month-by-month data in Figure 24 confirms this trend.

The Cann rate comparison (see Figure 39) has been decreasing since FY 95. The trend of the data in Figure 39 is nearly neutral well below the desired AETC goal. The rate for FY 97 confirms the information in Figure 25, which is lower than any other year depicted.

The Abort rate (see Figure 40) shows an increasing rate since FY 94 and the AETC transfer. The rate is higher than the desired goal but in the last two years the rate has been increasing at a decreasing rate. While the rate remains above the goal, there is indication the trend will reverse in the future and will begin improving.

The Repeat and Recurring Write-Ups comparison (see Figure 41) show the decreasing trend discussed about Figure 27 began in FY95 when the number was at its all time high. If the rate for the first five months of FY 97 continues, then the yearly total for FY 97 will be the lowest in the last four years.

In almost every situation the FY comparison has amplified the data found in appendix two. In every case except for the Cann rate and the number of Repeat and Recurring Write-Up the maintenance indicators are worse than the desired AETC goal. In one case, the 12 Hour fix rate, Figure 20, the rate is below the AETC goal, but in the last month it has improved. It still remains to be seem if the rate will completely reverse by the end of FY 97.

***The Altus AFB C-141 Mission Capable Rate vs AMC's C-141 Fleet***

Appendix E depicts the Mission Capable rates of the Altus AFB C-141s and the entire AMC fleet of C-141s. Figure 42, the month-by-month comparison of the data shows that from Jun 95 until Mar 96 Altus' 141s were consistently better than the AMC fleet. From Apr 96 until the now the opposite is true, the AMC fleet is better than Altus'.

Figure 43 depicts the same information as Figure 42 along with the respective averages for each group. The difference in representation is Figure 43 show the data in linear form. From this depiction the cross over in rates is more dramatically illustrated. Figure 43 also shows that the average MC rate for the AMC fleet is better than the Altus aircraft. The maintenance performance since the conversion has not improved this situation. Even with the brief spike in data in Nov 96 the MC rate since the conversion has been lower than any other time depicted in the data. This is confirmed with figures 12 and 29.

In each case analysis of appendices two, three, and four confirm that if maintenance is not going well it is more difficult to graduate students on time. The data shows that maintenance performance since Altus transferred to AETC has steadily declined in most areas. The maintenance conversion has dramatically added to the decline. The point where the conversion took place is were pilots began to graduate late. Further discussion of the results will be in a following section.

### *Customer Satisfaction*

One of the methods that the 97 AMW uses to confirm if the output from the training at Altus is successful is to ask the customers of the training, namely AMC, to critique the quality of the graduates after they arrive at the gaining operational unit. The critiques of the students are completed after the students have flown with their home unit (97 AMW USA, 1996: 65). Figure 3 below shows this data.

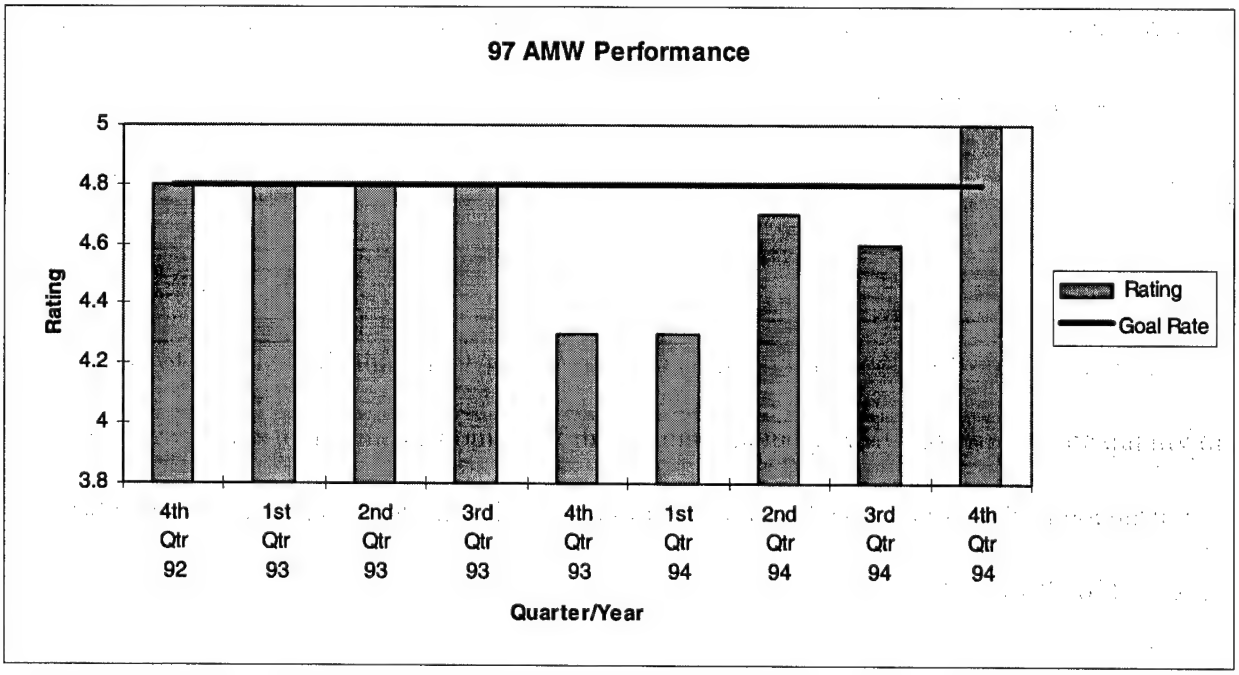

*Figure 3: Gaining Unit Satisfaction Rate*
(97 AMW USA, 1996: 65)

The data is only good through the fourth quarter of 1994. This will not show the effect of the maintenance conversion but it does reveal how the customer reacted after Altus went into AETC. From the data it is clear that while Altus was in AMC the base was able to meet the customers' expectations. After coming to AETC the satisfaction rate fell. It is premature that the blame for the fall was solely due to the new command, on the contrary, the 141 fleet experience serious structural defects that were discovered in that time period. The results of these defects limited the type of training the aircraft could fly consequently several qualifications could not be performed. The customer was experiencing the same difficulty with their fleet, none the less, they were not as satisfied with the quality of the students that were being produced at Altus. Clearly after the defects were solved the satisfaction rate soared to its highest rating shown, and this occurred while the command was in AETC.

What is not know is if the rating has subsequently changed since the new maintenance problems have occurred. Given that the graduation rate has stayed relatively high, even with the decreases noted in the beginning of the conversion, along with the student evaluation pass rate that has continued to be high, there is no reason to conclude that the satisfaction rate would dramatically change. The data will have to be reviewed to determine if this assumption is correct.

### *Impact of Maintenance Conversion*

The conversion to a civilian maintenance work force occurred at Altus officially 1 Oct 96. The reasons behind the conversion are beyond the scope of this report. What is important is the

impact of the training since the conversion occurred. The conversion amounted to changing the existing 1400 person maintenance force at Altus to a 695 person civilian civil service force. The general maintenance operation at Altus went from a 24-hour three shift operation to a two shift operation plus a minimally manned care-taker force at night (Capt Smith, 97OSS/DOT, 1997).

The new maintenance came with new rules for operations. First, there would be no planned flying after midnight. Second, there would be no weekend flying except without paying a $50,000 fee (Capt Patchett, 57AS/ADO, 1997). Along with these constraints the daily flying schedule has been reduced from flying typically 12 training sorties per day to a maximum of 8 training sorties (Capt Smith 97 OSS/DOT, 1997).

As stated earlier the C-141 is currently being retired from the Air Force inventory and the actual requirement for the number of students is reducing as the actual fleet size of the 141 is getting smaller. With all the above constraints and smaller projected requirements the number of students that the 57AS could train has been reduced. The contract between AMC and AETC that states the number and type of students that had to be trained in a given year is called the Programmed Flying Training (PFT). This document contains all the information that both commands agree should happen in a given, items such as class size, dates, and type are all found in the PFT. The PFT had to be changed to reflect all the changes that had been occurring. This was a very difficult process. AETC and Altus were limited by what the new maintenance could provide and AMC insisted on a certain throughput to maintain the readiness of the C-141 aircrew force and AMC's overall mobility requirement. From AMC's viewpoint AETC was not standing up to the throughput requirement that the Air Mobility Command needed (Maj Demers, HQ AMC/DOTA, 1997). This stands contrary to one of the primary reasons AETC evolved into the

new training command. AETC primary goal as discussed earlier was to provide the operational MAJCOM, in this case AMC, with mission ready students. This would reduce the requirement that the MAJCOMs would have to be in the training business and let them focus on their wartime mission. If AETC could not meet AMC's student throughput requirement this would mean that AMC would have to do more training itself to maintain the command's readiness, precisely what AETC was setup to avoid (Maj Demers, HQ AMC/DOTA, 1997). The commands managed to come to agreement and the result was a significant reduction in student output as expected. The overall change reduced the number of training sorties in the PFT from approximately 4,000 to roughly 2,500. The most significant change occurred with the AC Air Refueling training slots. The number was reduced nearly 50% from 184 to 98 training slots for the year (Capt Smith 97OSS/DOT, 1997).

The impact of all the changes that have occurred is not known at this time. The smaller number of sorties required by the maintenance contract has already shown that it is a source of problems. Oct and Nov 96 a combination of events occurred that resulted in classes graduating late, see Figures 4 and 5. These events were back-to-back airdrop classes which require more aircraft, as previously discussed in this chapter, low reliability of the 141 aircraft maintenance shown in appendix two, and the reduced number of sorties allowed. This caused a snowball effect to occur, if allowed to continue the result would have been a very large number of late graduates (Capt Smith, 97 OSS/DOT, 1997).

To prevent the number late graduates from ballooning, the 97 AMW forced the civilian maintenance to generate 10 sorties a day, two over the authorized amount. With aggressive scheduling of students and the additional sorties the 57 AS prevented a large number of late

graduates. Figure 17a in appendix two shows in Dec 96 to Jan 97 the actual number of sorties exceed both the scheduled and adjusted number of sorties. This shows the effort by the 57 AS to meet AMC's requirements.

The trend in maintenance that since the conversion is a concern for all involved parties. The maintenance at Altus is not able to successfully support the sortie requirements of the reduced PFT. There are several training and manning issues that have to be resolved. According to the Director of Maintenance, "As evidenced by our decreasing performance indicators, it is clear that our maximum aircraft maintenance effort is not resulting in increased capability. Until we resolve these training and manning issues it will be difficult for our maintenance team to meet the sortie generation requirements to fully support the wing's PFT." (97 AMW Monthly Maintenance Digest, 1997: 1) This situation boiled to a head in March 1997. During the AETC Quality Air Force Assessment (QAFA) the 97 AMW directed that the wing flying be stopped to assess the actual qualification of the maintenance force. It was discovered that only fraction of the C-141 maintenance force was qualified to perform flightline duties. This discovery has further constricted sortie generation for the 141s and C-5s at Altus and forced drastic measures to meet the AMC requirements (Maj Demers, HQ AMC/DOTA, 1997).

As result of the new findings the 57AS is limited to 5 sorties a day. To make up for the addition sorties, instructors, students and aircraft have been deployed to Travis AFB, an AMC unit to fly training sorties. The aircraft will be maintained by the Travis maintenance force to help meet sortie requirements. In addition, a yet to be determined number of AMC maintenance personnel will be deployed to Altus to train the civilian force there. The cost to the Air Force is not yet known, but it is likely to be substantial (Maj Demers, HQ AMC/DOTA, 1997).

It is clear that the maintenance conversion has had a negative effect on the training at Altus. The members of the wing have worked very hard to minimize this effect and graduate students that are mission ready and on time.

# IV. Conclusion

## How Effective is the 57 AS?

After review of all the data, it is evident that the 57AS is meeting the primary goal that was established by General McPeak when he reorganized AETC. That is, 57AS is successfully producing mission-ready graduates for AMC's C-141 aircraft. This conclusion is based on the information from the data reviewed in chapter five. Since the 57AS moved to AETC the squadron has been able to keep an impressive on-time graduation rate for all aircrew positions. Deviations occurred in four crew positions but when viewed as a big picture the overall on-time rate is excellent. The next area reviewed was student evaluation pass rate. While the average for the last four years is below the wings desired goal, it remains well above 93%.

Maintenance data was the next area reviewed. The maintenance performance since coming to AETC has been declining with several performance indicators below the AETC desired goal. There is a troubling trend occurring since the maintenance converted to a civilian work force, this will be discussed later in the chapter. What is relatively certain is the correlation between successful maintenance and on-time student graduation rate. The data suggests that with successful maintenance, on-time graduation rates remain high. When maintenance is unreliable the on-time graduation rates fall. This is what happened in the 57AS in Oct 96. Maintenance suffered in the conversion to a civilian force and for the pilots, copilots, and loadmasters the on-time rate fell. In order

to prevent complete disaster, the 57 AS surged above the maximum allowed sorties to keep the late graduations at a minimum.

The next area reviewed was the customer satisfaction rate. While the data is somewhat dated it does confirm that the customer, primarily AMC, is satisfied with the caliber of the students graduating from the 57AS. As discussed earlier, what is not known is how is what the latest satisfaction rate is. It will be interesting to see if the effects of the maintenance performance are eventually revealed in this performance indicator. Further research will have to be done in order to properly determine this. Again as suggested in chapter five, given the continued high on-time graduation rate and student evaluation pass rates, there is no reason to believe that this high satisfaction rate will change.

Finally the maintenance conversion was reviewed. The data suggests that it has negatively impacted on-time graduation rate and student production. Through February 1997 the effects where minimal, however, it required substantial activity by the 57AS to keep the deviations as small as they were. What is not known at this time is what the cost of and effect is on the performance indictors, of the recent actions taken to recover from the maintenance shortfalls. The cost to the Air Force is likely to be high to make the maintenance conversion successful.

The results from the last two HQ AETC QAFAs have confirmed this conclusion. In both inspections the squadron rated an 'Excellent' in mission accomplishment (Capt Patchett, 57 AS/DO, 1997). This is ample evidence that AETC as a command thinks that the 57AS is accomplishing the stated goal of training qualified students.

The importance of the 57AS achieving this goal cannot be understated. The national strategy of the United States has changed from forward presence to forward deployment. Mobility is the key to forward presence as defined by the last two Air Force Chiefs of Staff, General McPeak and General Fogleman. The training accomplished by the 57AS is the foundation for the C-141 Starlifter which has historically been the backbone of the mobility forces for the DoD. Even with the C-141 retiring from the Air Force fleet, without the quality students provided by the 57AS the mobility machine AMC could not function as desired.

## How Effective Is AETC?

Based on the performance of the 57AS as discussed above it can be concluded that as a command AETC is meeting the primary goal set out by General McPeak. This assumes that most squadrons are able to produce students as well as the 57AS. As stated in chapter one, it is time and cost prohibitive to review all the facets of broad spectrum of AETC's training. To eliminate this assumption, detailed research into all units in AETC to determine the exact ability AETC has in meeting General McPeak's goal of providing mission ready graduates.

## Recommendations

The concept of General McPeak's training command, AETC, proved to be a successful venture. The operational commands are getting a mission ready assets without having to expend a large amount of time, equipment, and money training the students. From this prospective AETC is successful. For future studies I would recommend that

the Air Force and AETC thoroughly research any new maintenance conversion. There are many lessons that the Air Force can learn from what is happening at Altus AFB right now. The maintenance conversion at Altus in the mist of considerable turbulence. It remains to be seen how successful the transition will be in the future.

Another study for future research would be a command wide study on how well each of the new bases from the old operational commands is producing students. This would give AETC and the Air Force a clear picture of how the training is going in the command. Now that the command is nearly four years old, a study of this kind of detail would confirm if the training command is on the correct path or show what direction the command must turn to ensure that the customers are getting the products they need.

# Appendix A: Student On-time Graduation Rates

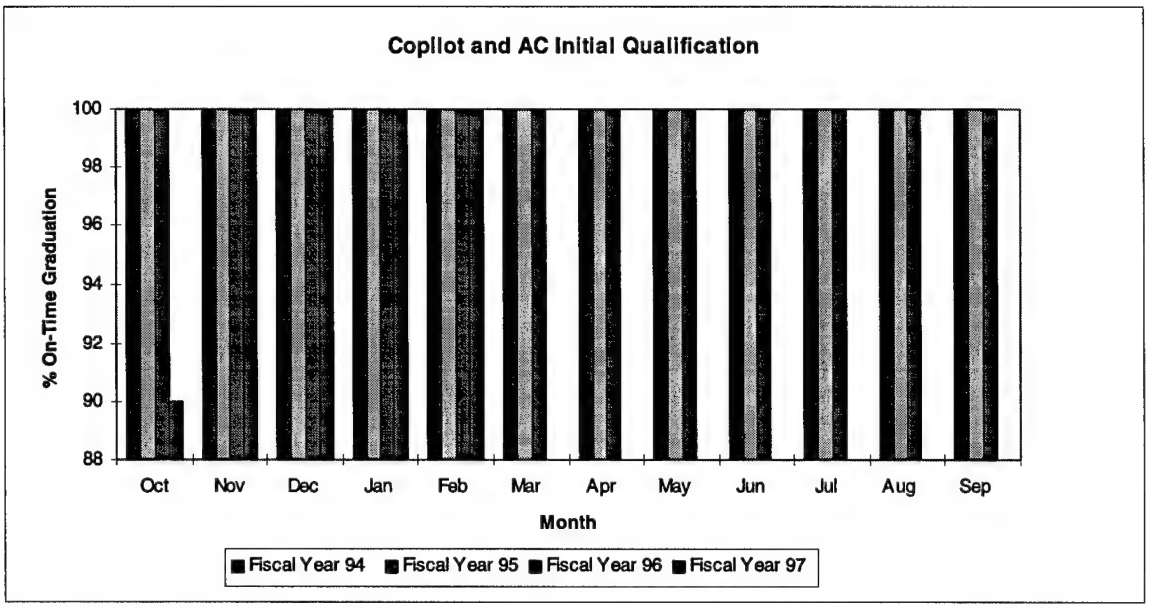


*Figure 4: Copilot and AC % On-time Grad Rate*

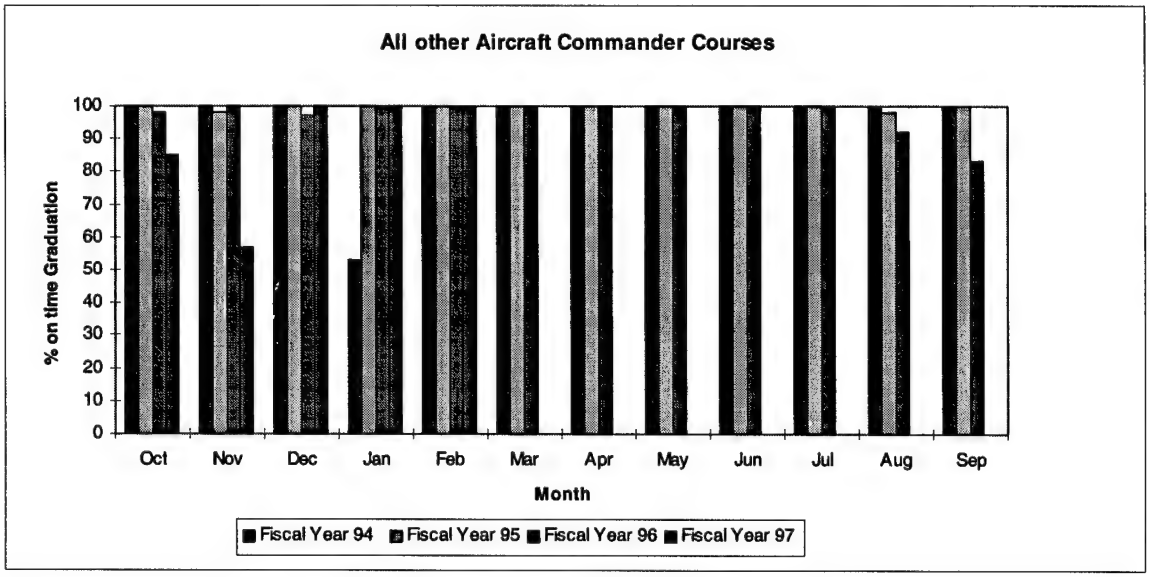


*Figure 5: All of Aircraft Commanders % On-time Grad Rate*

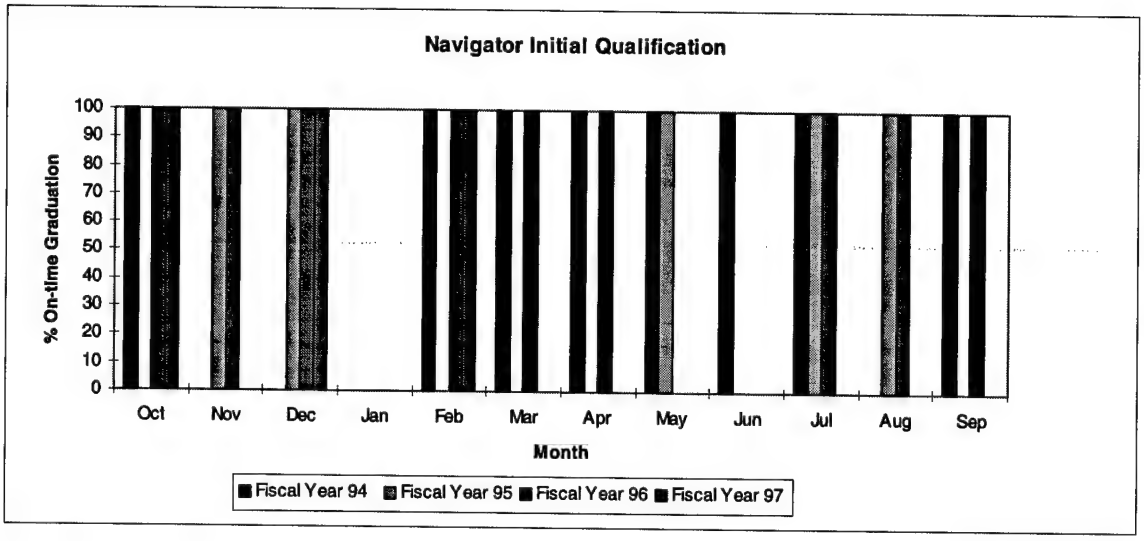


*Figure 6: Navigator Initial Qualification % On-time Grad Rate*

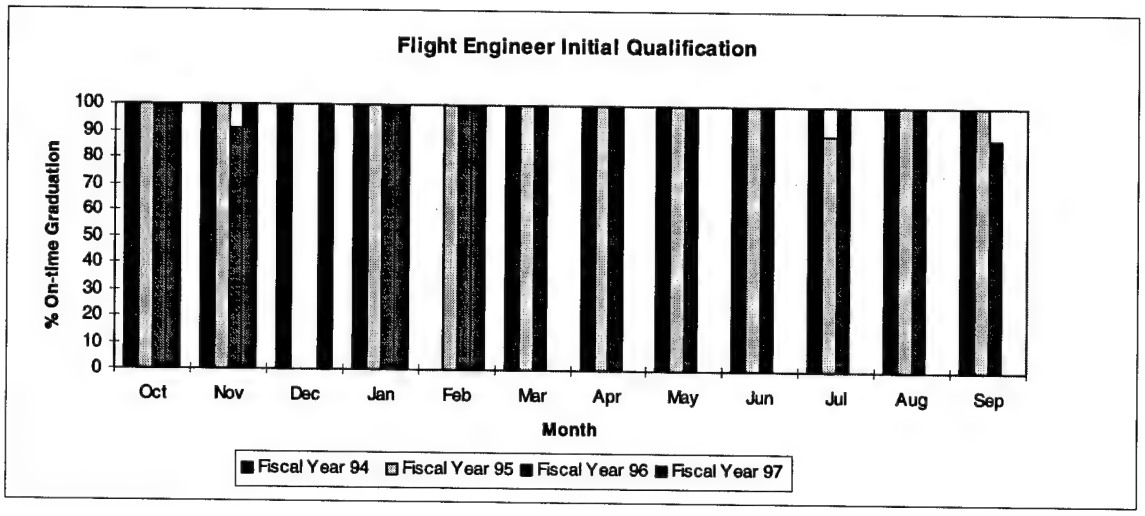


*Figure 7: Flight Engineer Initial Qualification % On-time Grad Rate*

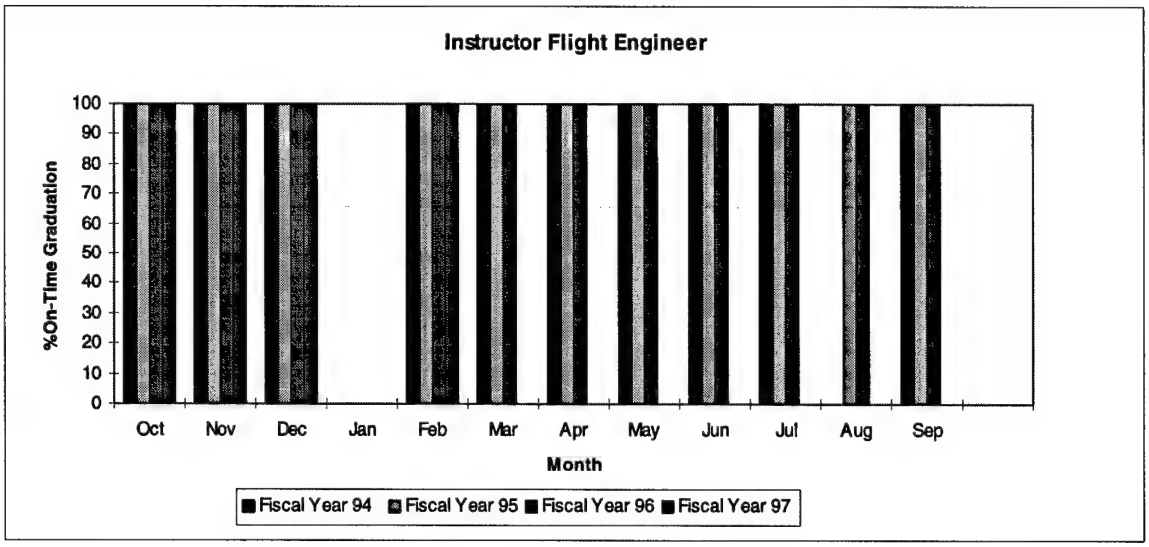


*Figure 8: Instructor Flight Engineer % On-time Grad Rate*

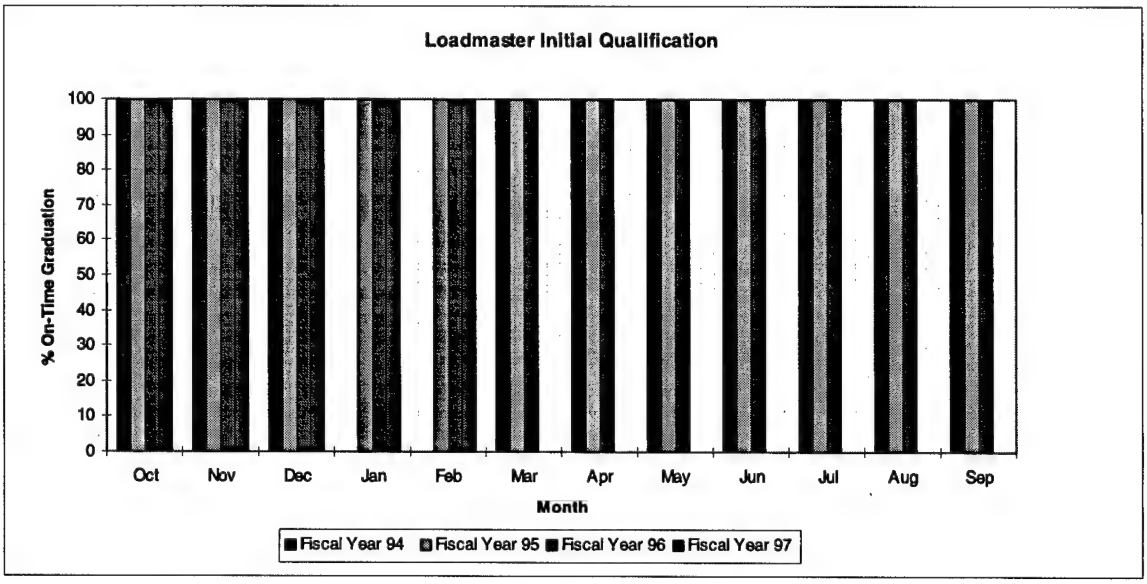


*Figure 9: Loadmaster Initial Qualification % On-time Grad Rate*

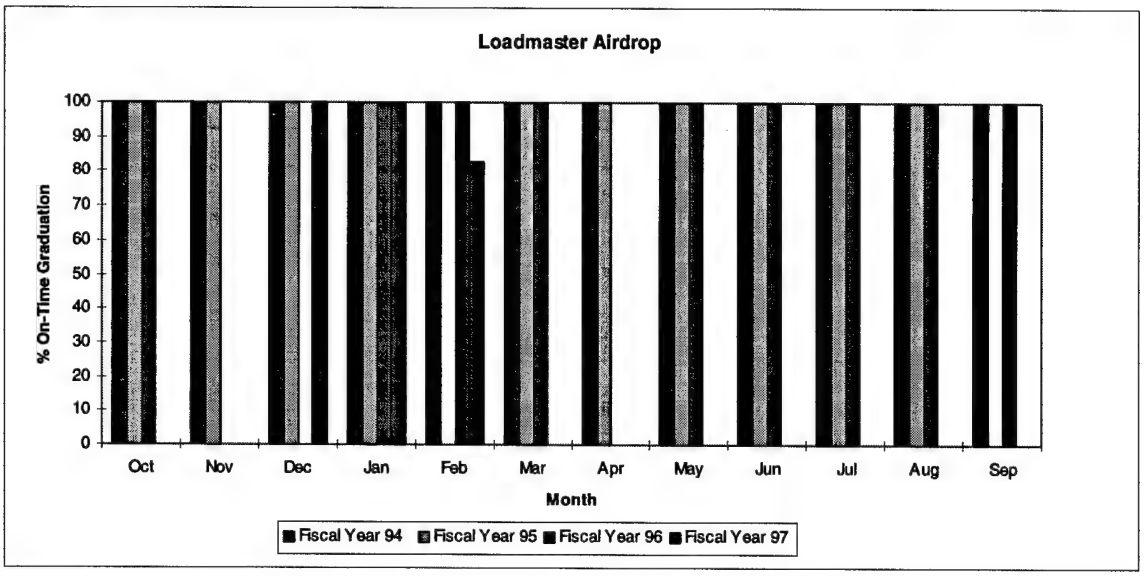


***Figure 10: Loadmaster Airdrop % On-time Grad Rate***

All data above is from: (97 OSS/DOR, 1997)

# Appendix B: Summary of Maintenance Terms and Formulas

| Term | Definition | Formula |
|---|---|---|
| Air Abort Rate | Percent of sorties that end due to a deficiency discover while airborne which prevented completion of minimum sortie requirements | (Air Aborts/Sorties Flown) X 100 |
| Adjusted schedule (ADJ SCH) | Local sorties scheduled adjusted for the non-chargeable deviation to the schedule | |
| Break Rate | Percentage of aircraft sorties/block-in that have system discrepancies rendering the aircraft not mission capable | (# Breaks/Local Sorties Flown) X 100 |
| Cannibalization (CANN) rate per 100 sorties | Percent of the number of movements a part from one aircraft to another | (Total CANN/# Local Sorties Flown) X 100 |
| Fix rate (12 Hour Fix rate) | The number of breaks that are returned to MC status within 12 hours | (# Fixes 12 hr/ # Breaks) X 100 |
| Fully Mission Capable (FMC) rate | Percent of aircraft possessed hours that were fully mission capable for a unit over a specified period of time | (FMC hours/Possessed hours) X 100 |
| Ground Abort Rate | Percent of sortie attempts that a discovery of a discrepancy after aircrew arrival which prevents that crew and aircraft from becoming airborne to complete that mission | (Ground Aborts/Local Sorties Flown + Ground Aborts) X 100 |
| Late Takeoff Due to Maintenance (MxLTO) rate | Percent of local sorties that depart more than 14 minutes after scheduled takeoff time due to maintenance | (# Late Sorties/# Sorties) X 100 |
| Local Sorties Flown | Sorties flown that originated and recovered at Altus AFB or a location with 97 AMW maintenance support | |
| Maintenance Effective (Mx EFF) rate | Percent of local sorties flown that completed its mission | # Local Sorties - # MX INEFF / Local Sorties Flown X 100 |
| Maintenance On-Time Takeoff rate | Percent of all scheduled local sorties that depart on-time | (# On-time Sorties/# Sorties) X 100 |
| Maintenance Non-Delivery (Mx NON-DEL) rate | Percent of the number of scheduled local sorties not flown due to maintenance | (MX NON-DEL/Sched Sorties) X 100 |
| **Term** | **Definition** | **Formula** |

| | | |
|---|---|---|
| Mission Capable (MC) rate | Percent of aircraft possessed hours that were FMC or PMC for a unit over a specific period of time | (MC hours/Possessed hours) X 100 |
| Partially Mission Capable (PMC) rate | Percent of aircraft possessed hours that were partially mission capable for a unit over a specified period of time | (PMC hours/Possessed hours) X 100 |
| Possessed Aircraft | Average number of aircraft possessed per day for a specified period | Possessed Hours/(# of days in the month X 24) |
| Possessed Hours | Total number of clock hours accumulated for a specified period of all of the possessed aircraft for a unit | |
| Recurring Write-Ups | The number of malfunctions that reappears in one of the three sorties (or attempted sortie) that follows the next sortie (or attempted sortie) following its first appearance and had completed corrective action for the original malfunction | |
| Repeat Write-Ups | The number of malfunctions that reappears on the next sortie (or attempted sortie) following its first appearance and had completed maintenance corrective action for the original malfunction | |
| Scheduled Sorties (sched Sorties | Sorties scheduled to originate and recover at Altus AFB or a location with 97AMW maintenance support | |
| Sortie Scheduled Effectiveness Rate (Sortie Sched EFF rate) | A measure of how well the 97 AMW met its flying schedule | (ADJ SCH- Chargeable Deviations)/ADJ SCH |
| Total Abort Rate | Total of all air and ground aborts | Air Abort Rate + Ground Abort Rate |
| Total Not Mission Capable Maintenance (TNMCM) rate | Percent of possessed aircraft hours that were not mission capable for maintenance (NMCM), and both maintenance and supply (NMCB) for a unit over a specified period of time | (TNMCM hours/possessed hours) X 100<br><br>TNMCM= NMCM + NMCB |
| Total Not Mission Capable Supply (TNMCS) rate | Percent of possessed aircraft hours that were not mission capable for supply (NMCS), and both maintenance and supply (NMCB) for a unit over a specified period of time | (TNMCS hours/possessed hours) X 100<br><br>TNMCS= NMCS + NMCB |

(97 AMW Monthly Aircraft Maintenance Digest, 1997: vii-x)

# Appendix C: 57 AS Maintenance Performance Data

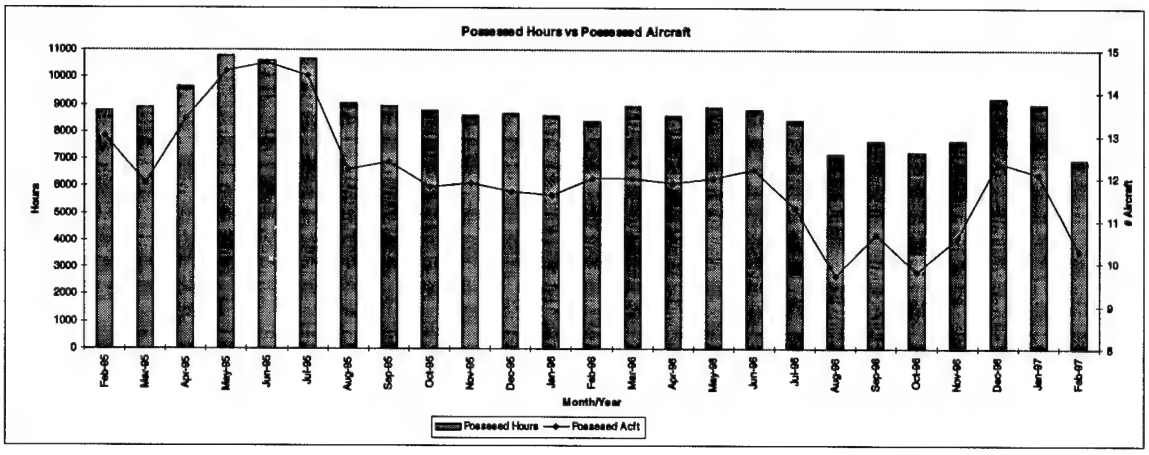


*Figure 11: Possessed hours vs Possessed Aircraft*

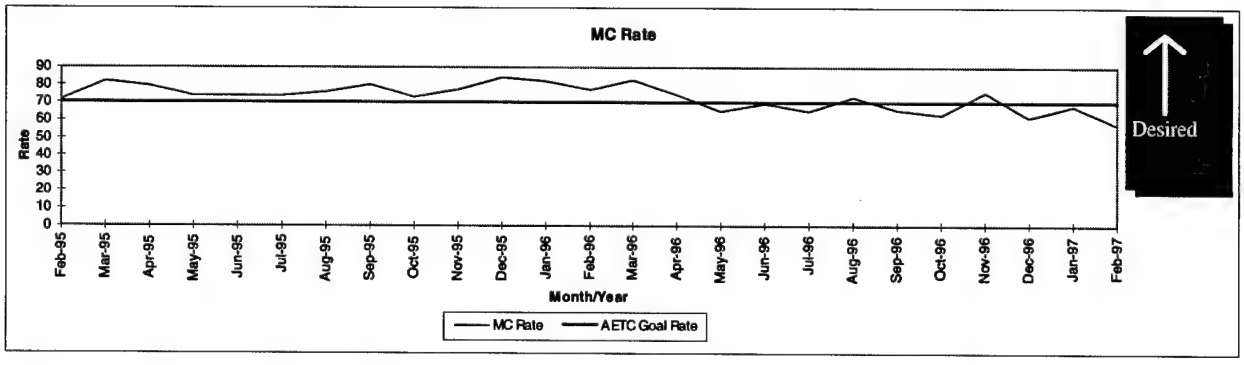


*Figure 12: Mission Capable Rate*

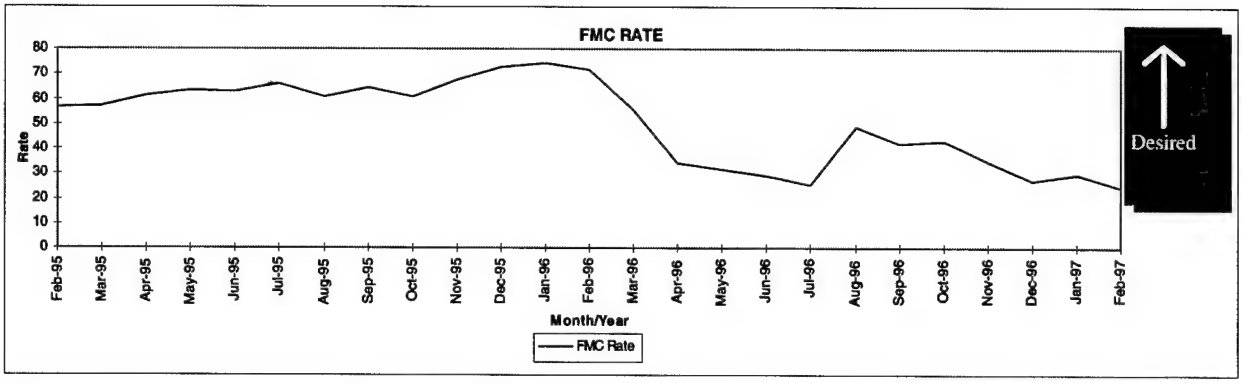


*Figure 13: Fully Mission Capable Rate*

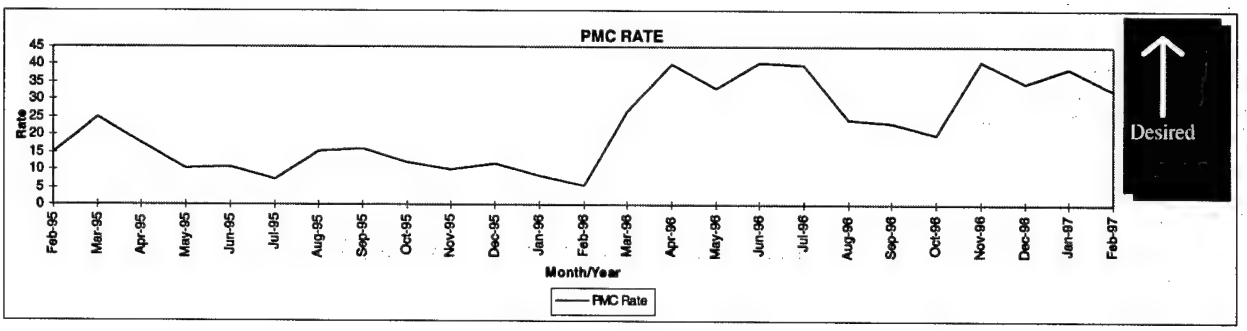


*Figure 14: Partially Mission Capable Rate*

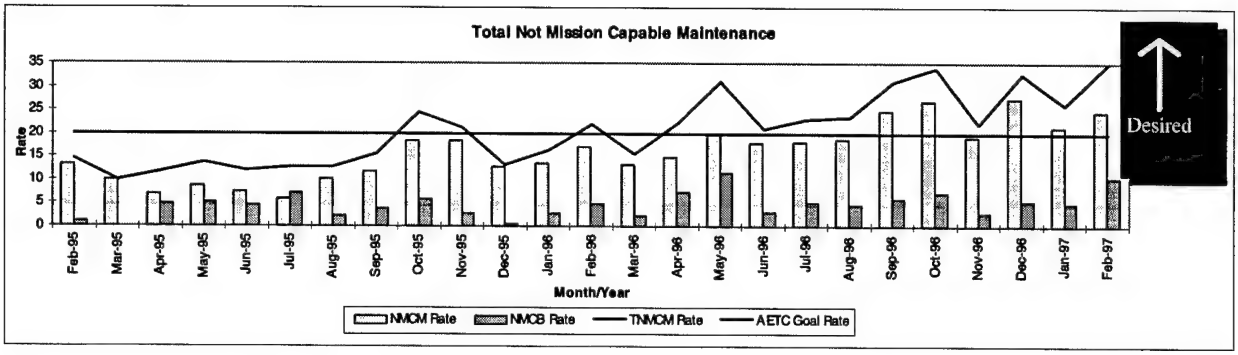


*Figure 15: Total Not Mission Capable Maintenance*

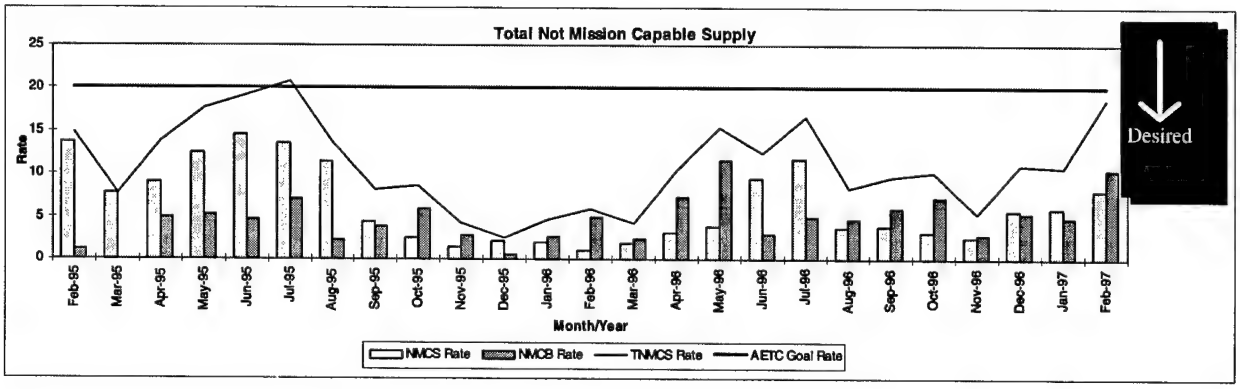


*Figure 16: Total Not Mission Capable Supply*

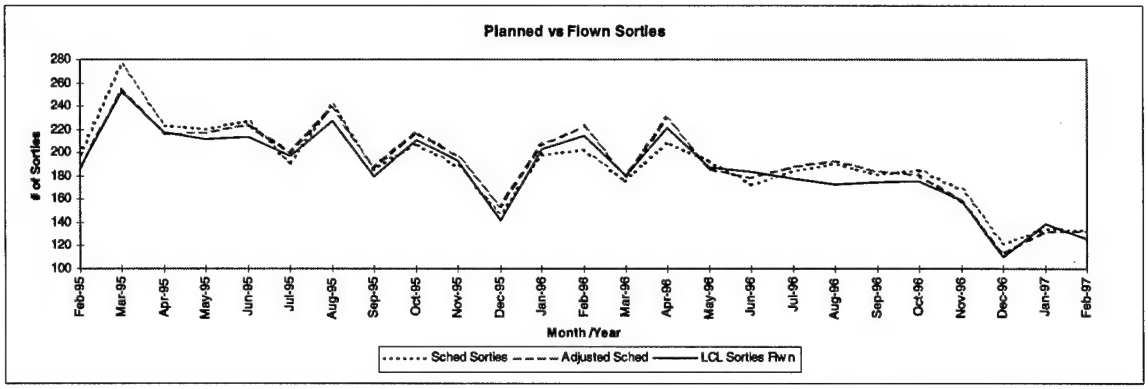


*Figure 17: Planned vs Scheduled Sorties*

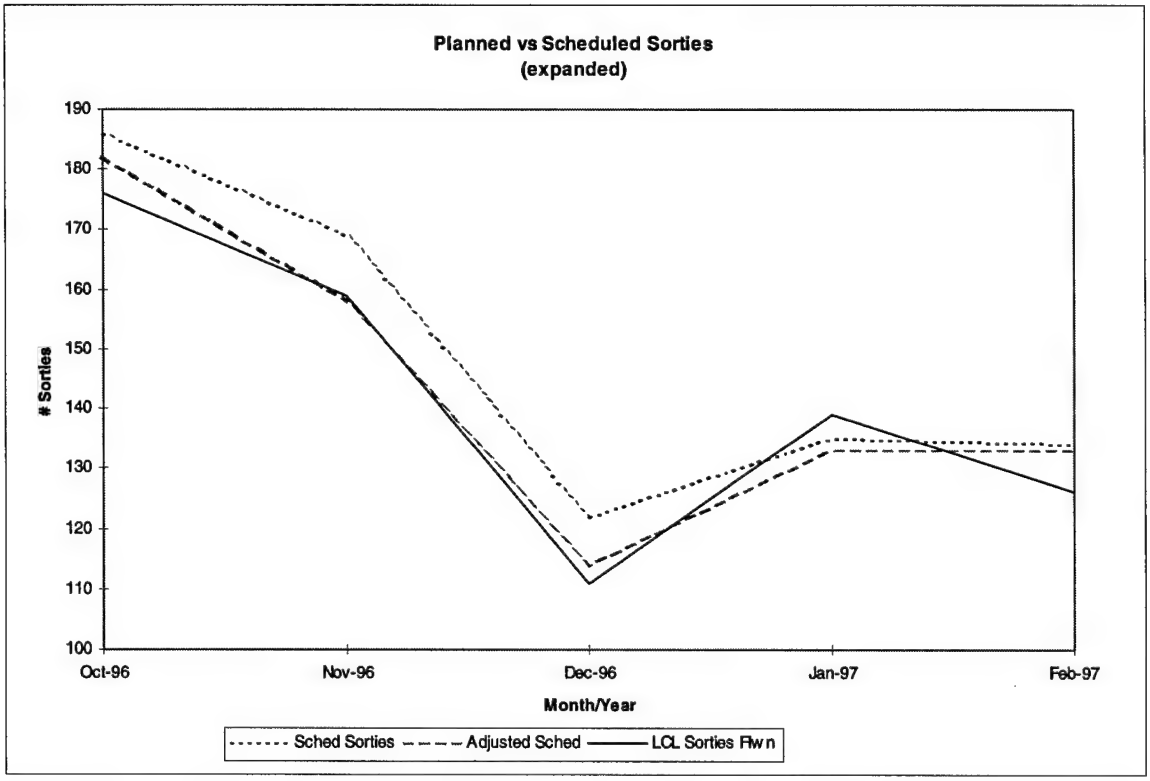


*Figure 17a. Planned vs Scheduled Sorties (Expanded)*

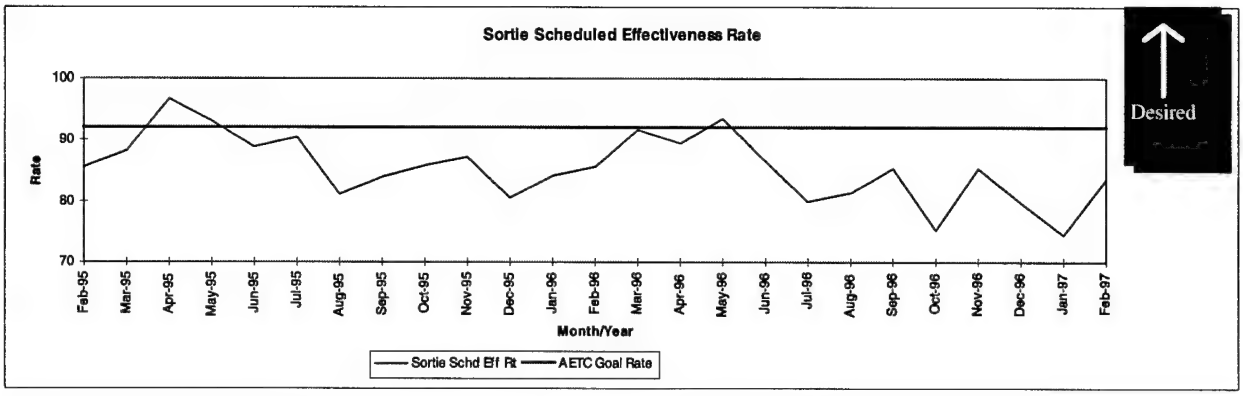


*Figure 18: Sortie Scheduled Effectiveness Rate*

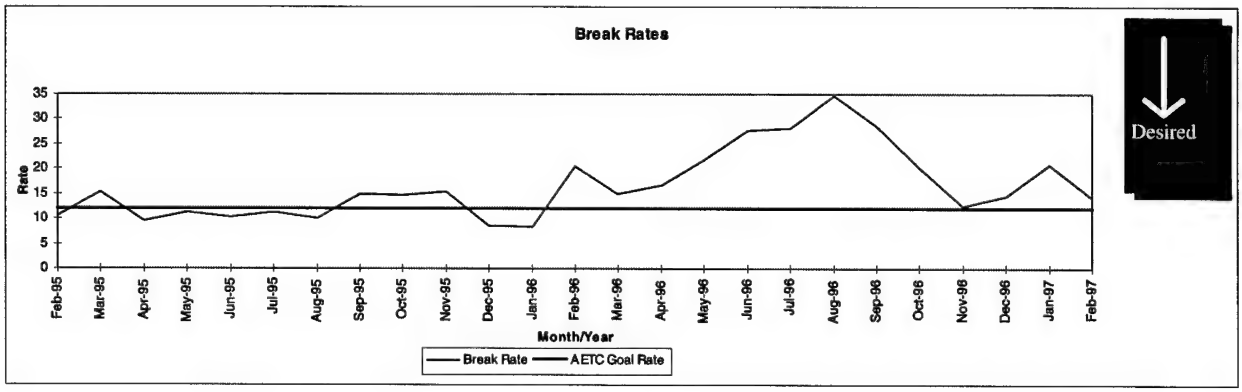


*Figure 19: Break Rates*

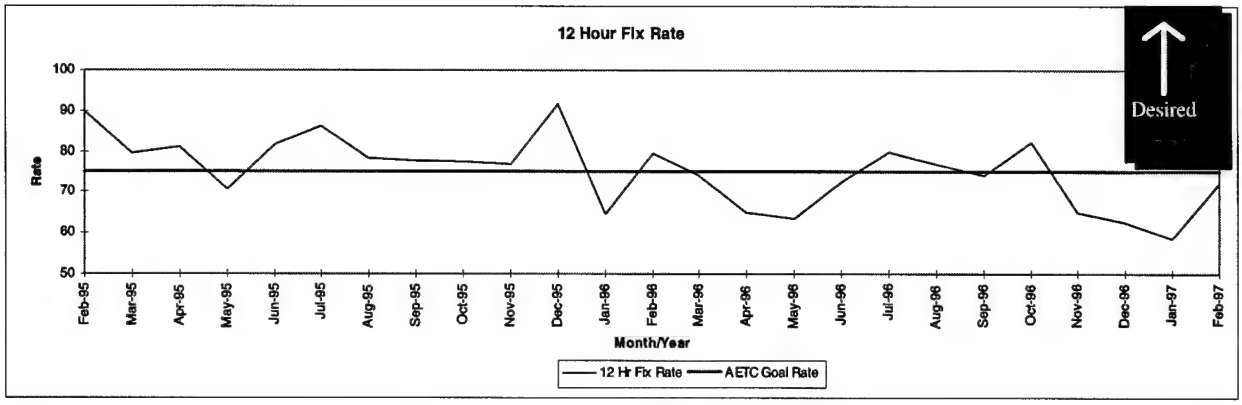


*Figure 20: 12 Hour Fix Rate*

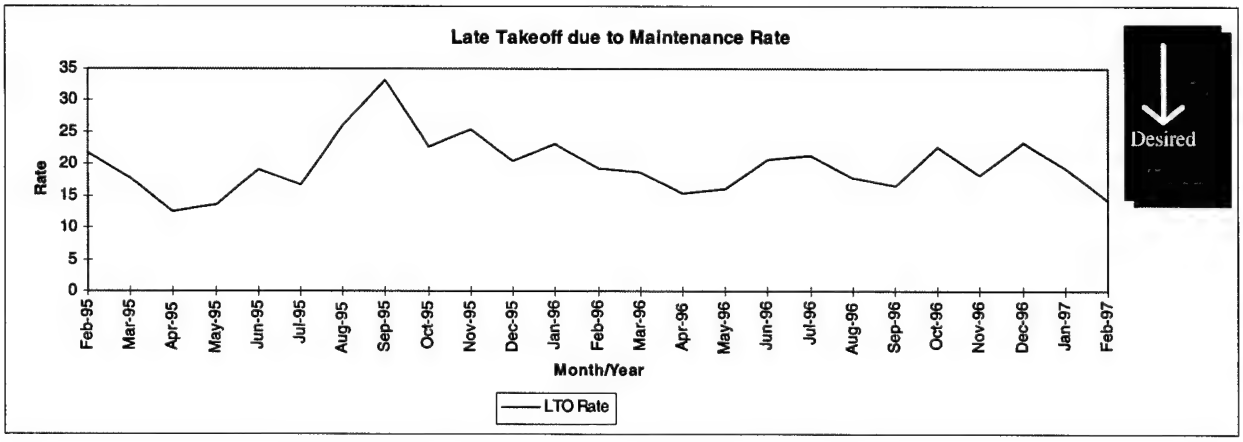


*Figure 21: Late Takeoff Due to Maintenance Rate*

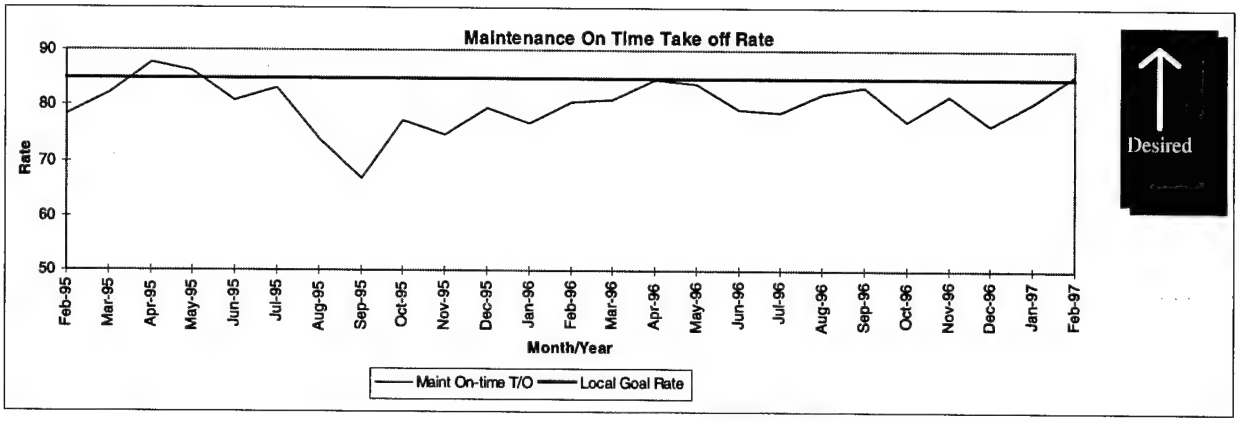


*Figure 22: Maintenance On Time Takeoff Rate*

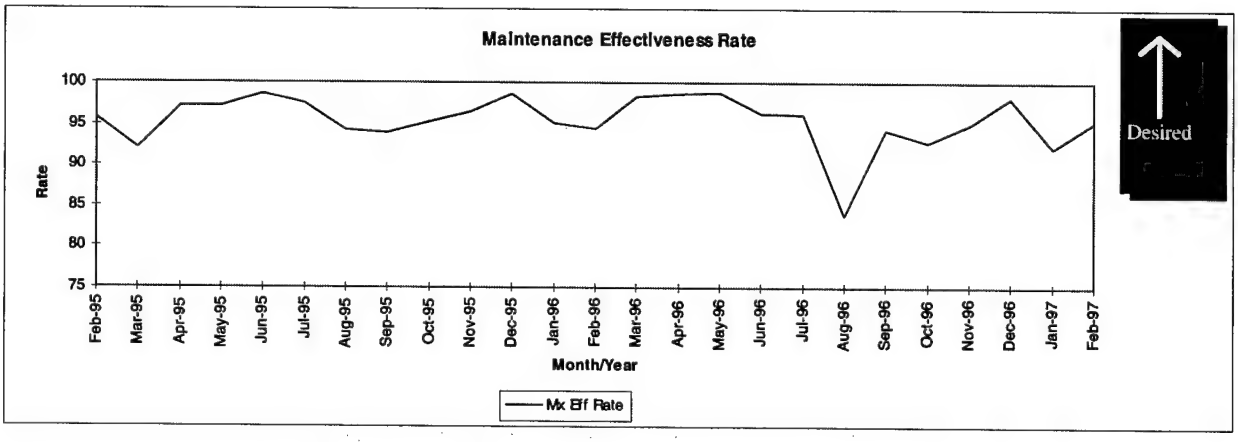


*Figure 23: Maintenance Effectiveness Rate*

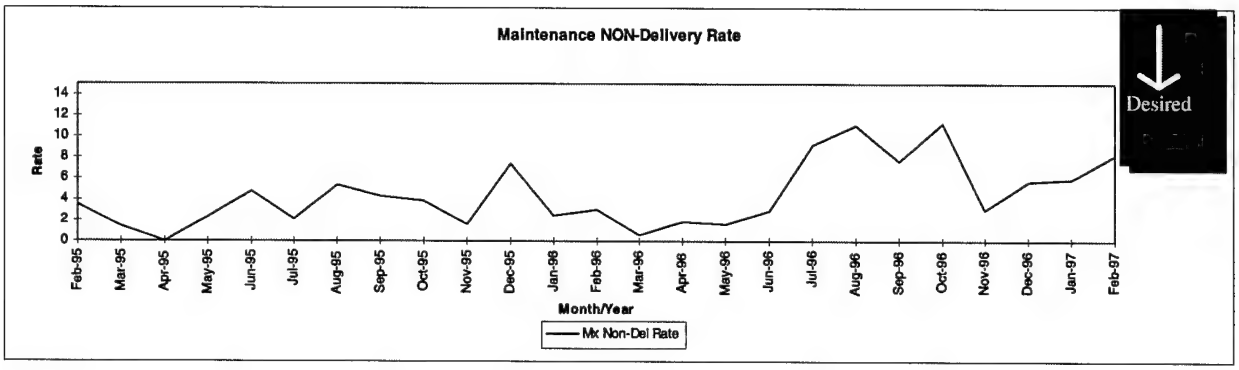


*Figure 24: Maintenance Non-Delivery Rate*

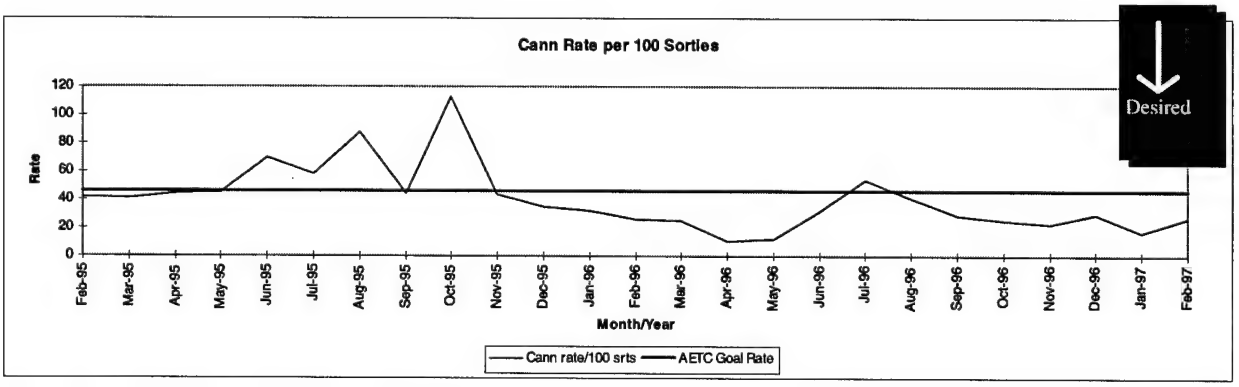


*Figure 25: Cann Rate Per 100 Sorties*

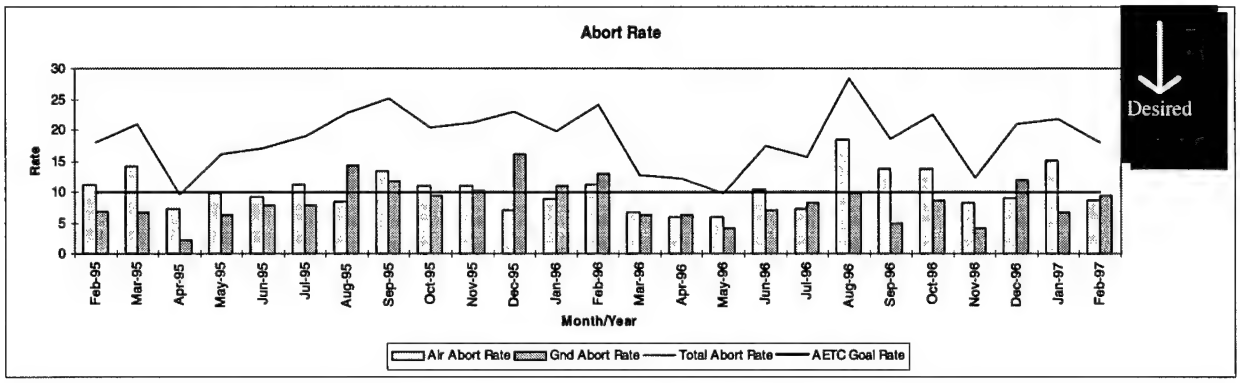


*Figure 26: Abort Rate*

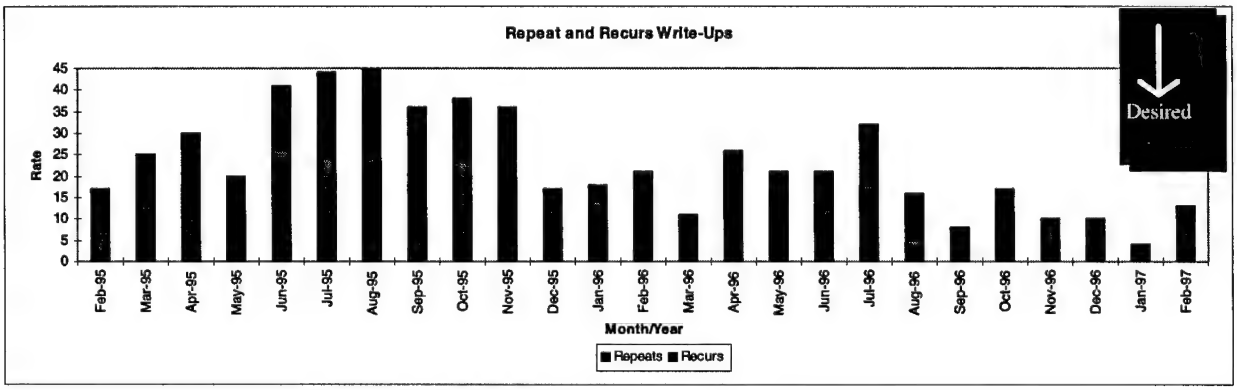


*Figure 27: Repeats and Recurring Write-ups*

All data above is from: (97 OSS/DOOA, 1997)

# Appendix D: 57 AS Maintenance Performance Data FY94-FY97

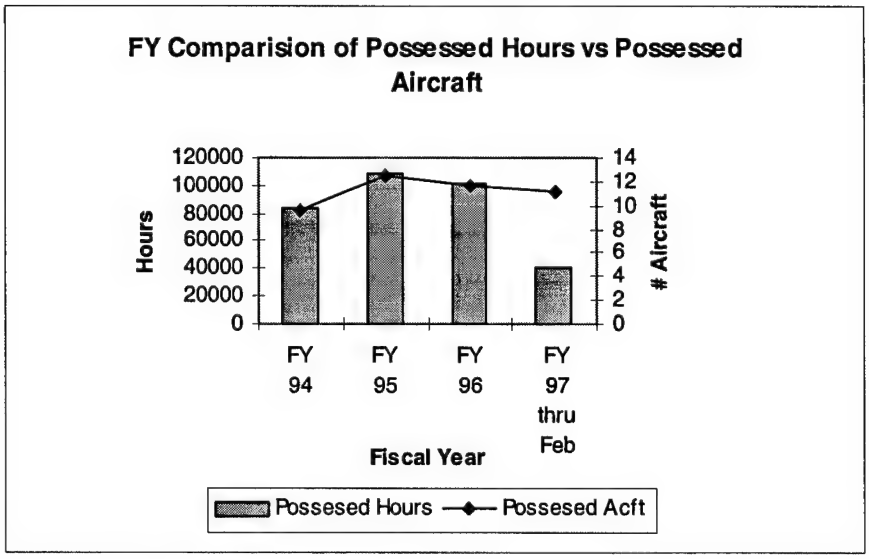


*Figure 28: Possessed Hours vs Possessed Aircraft*

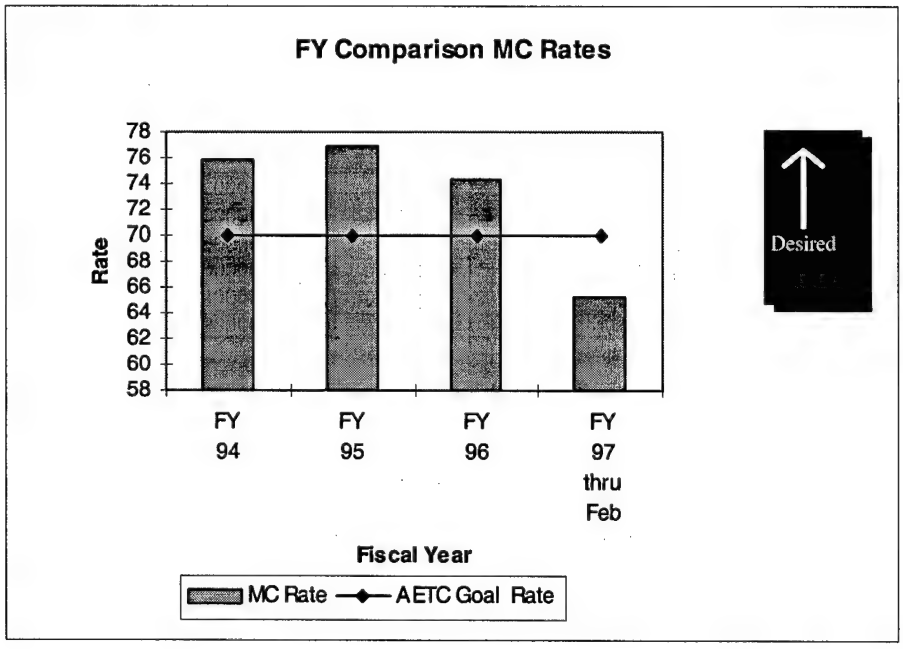


*Figure 29: Mission Capable Rate*

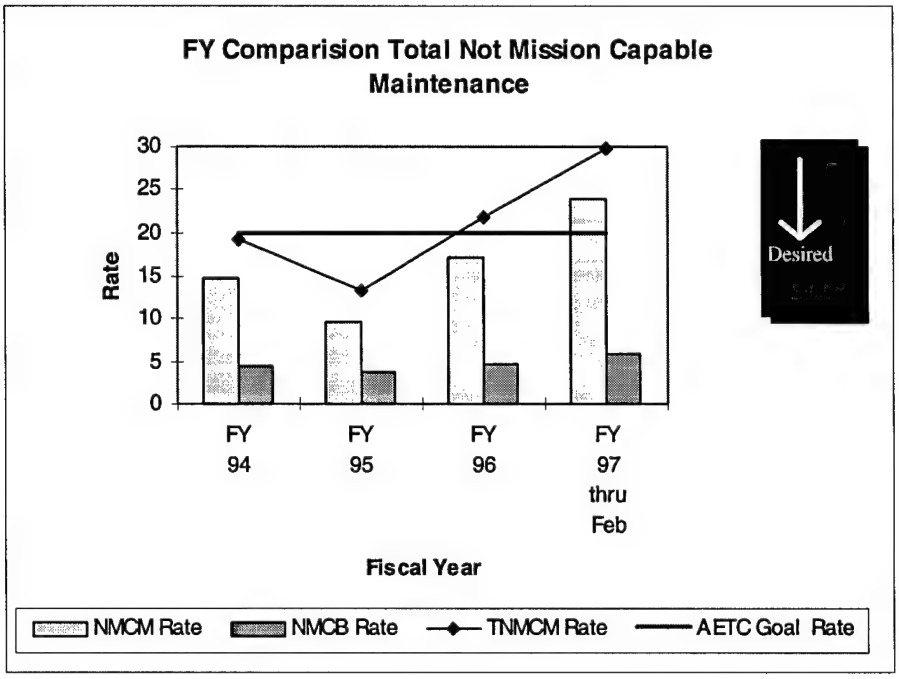


*Figure 30: Total Not Mission Capable Maintenance*

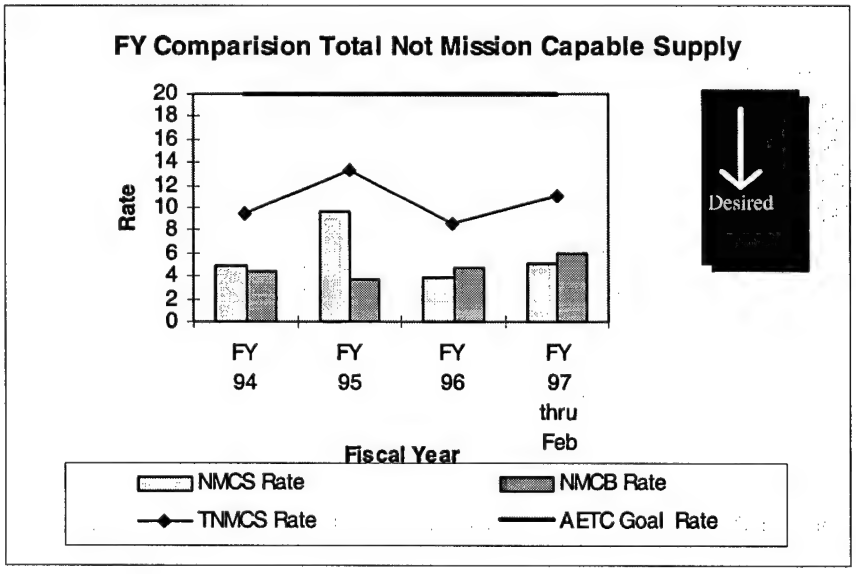


*Figure 31: Total Not Mission Capable Supply*

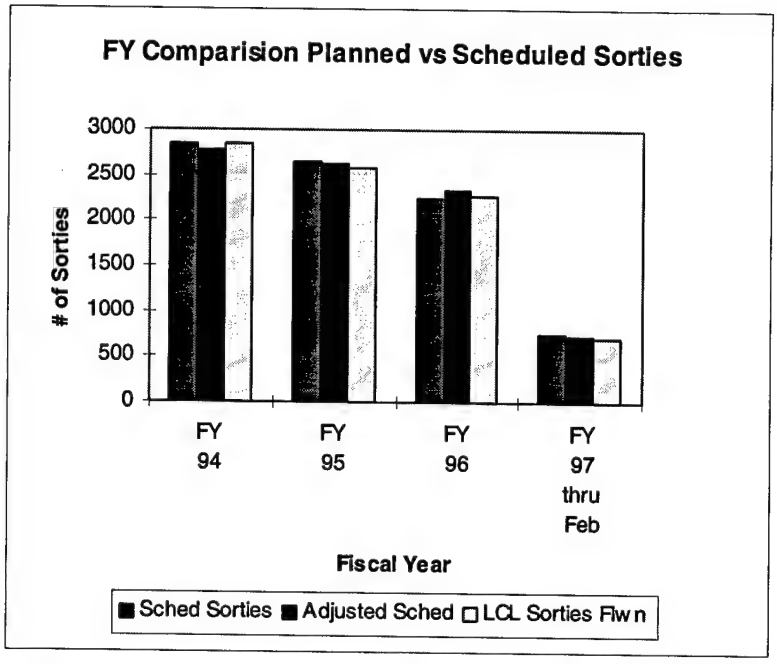


*Figure 32: Planned vs Scheduled Sorties*

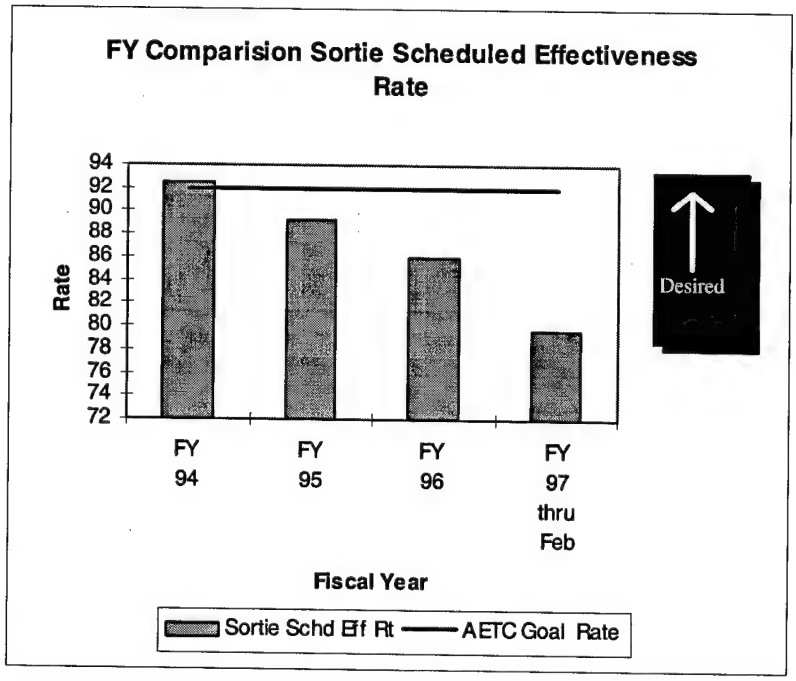


*Figure 33: Sortie Scheduled Effectiveness Rate*

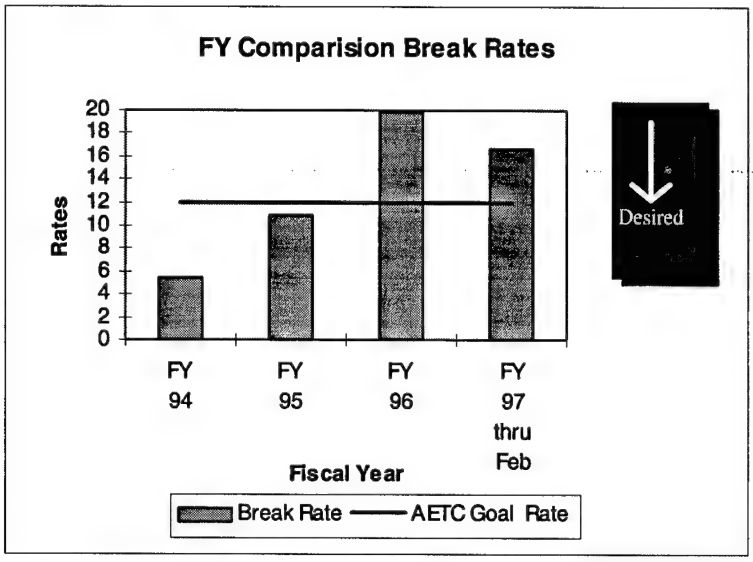


*Figure 34: Break Rate*

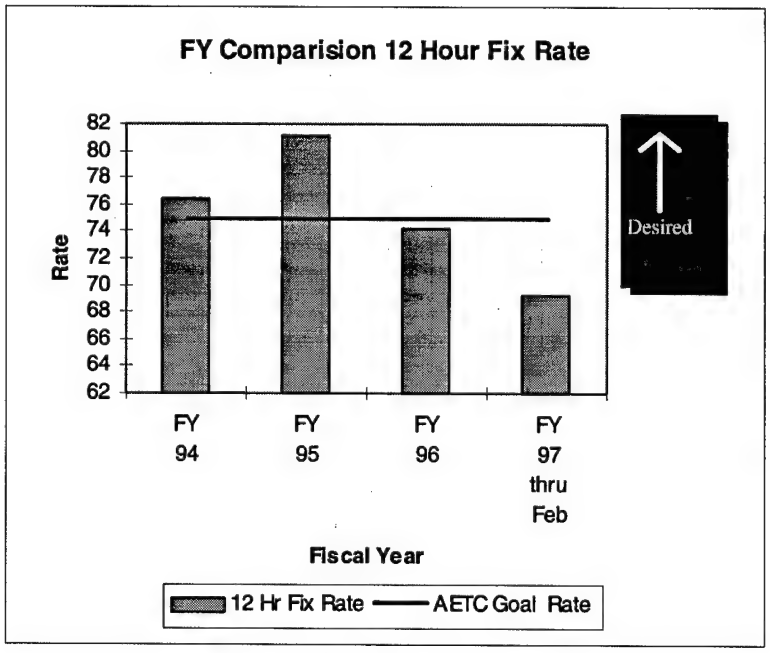


*Figure 35: 12 Hour Fix Rate*

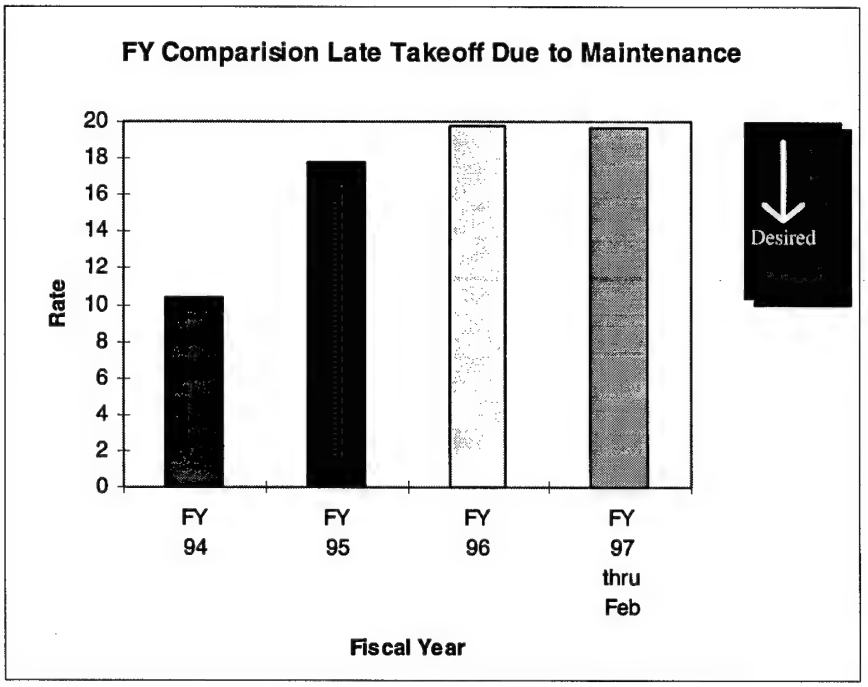


*Figure 36: Late Takeoff Due to Maintenance Rate*

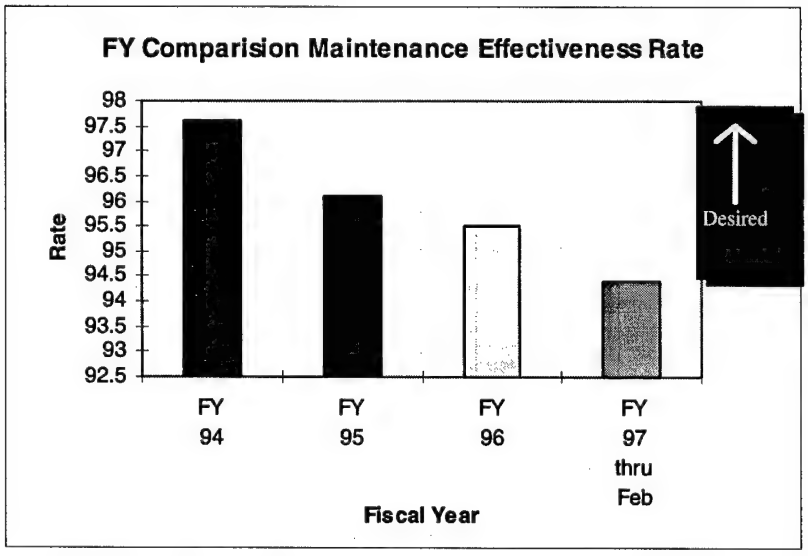


*Figure 37: Maintenance Effectiveness Rate*

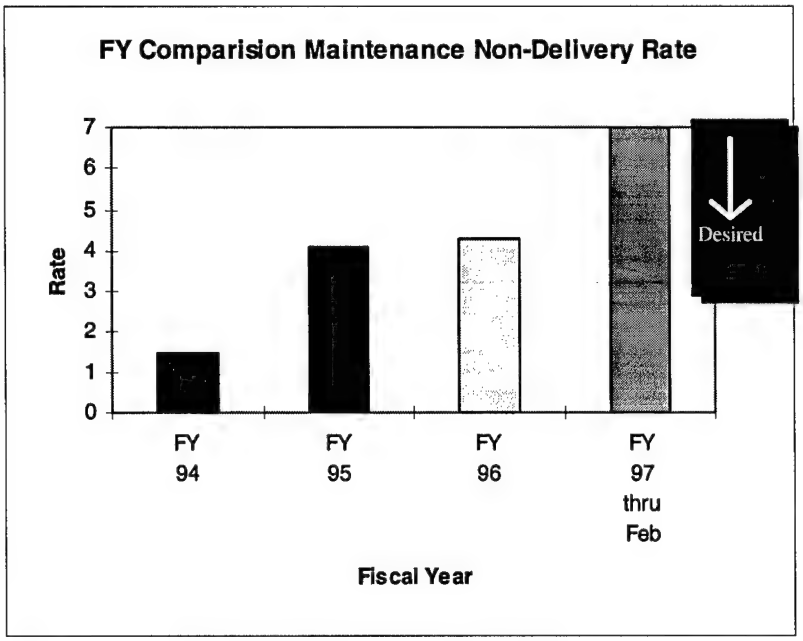


*Figure 38: Maintenance Non-Delivery Rate*

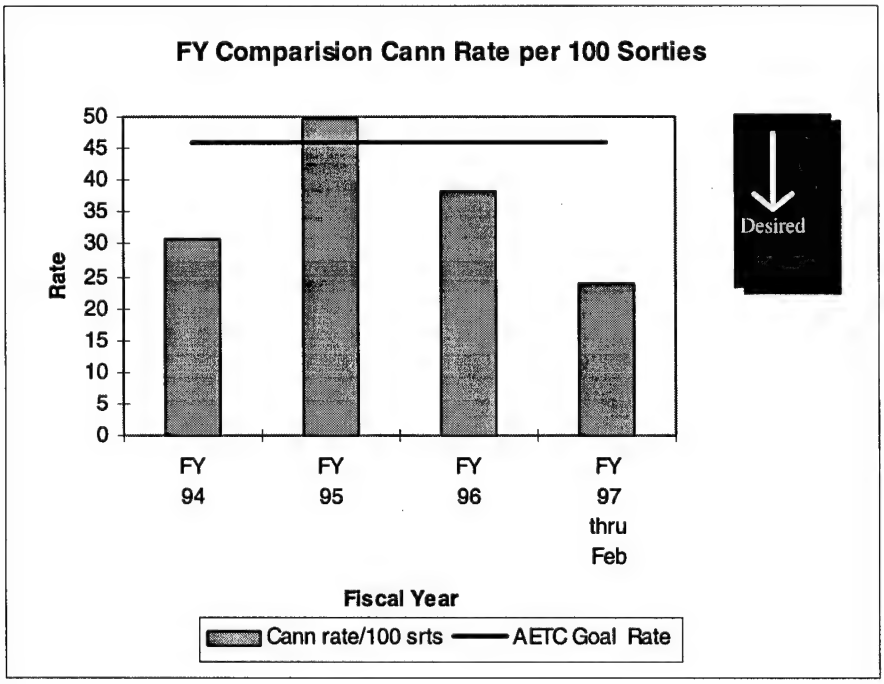


*Figure 39: Cann Rate per 100 Sorties*

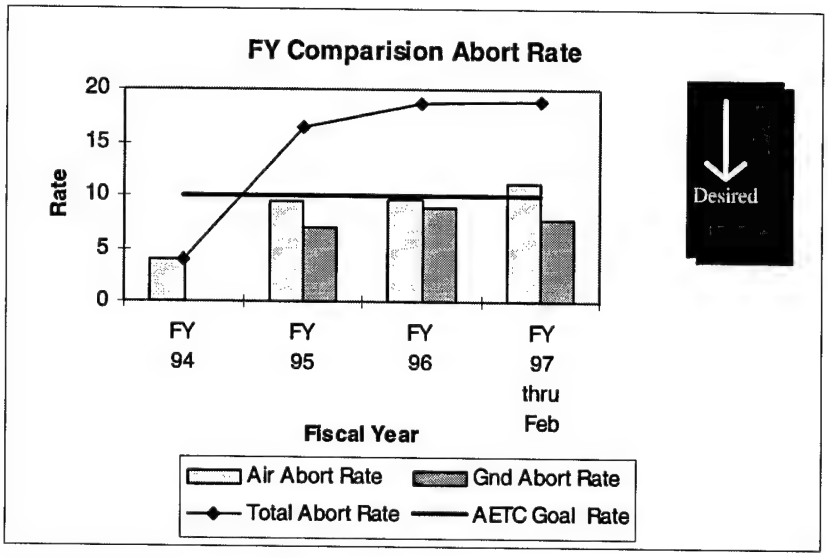


*Figure 40: Abort Rate*

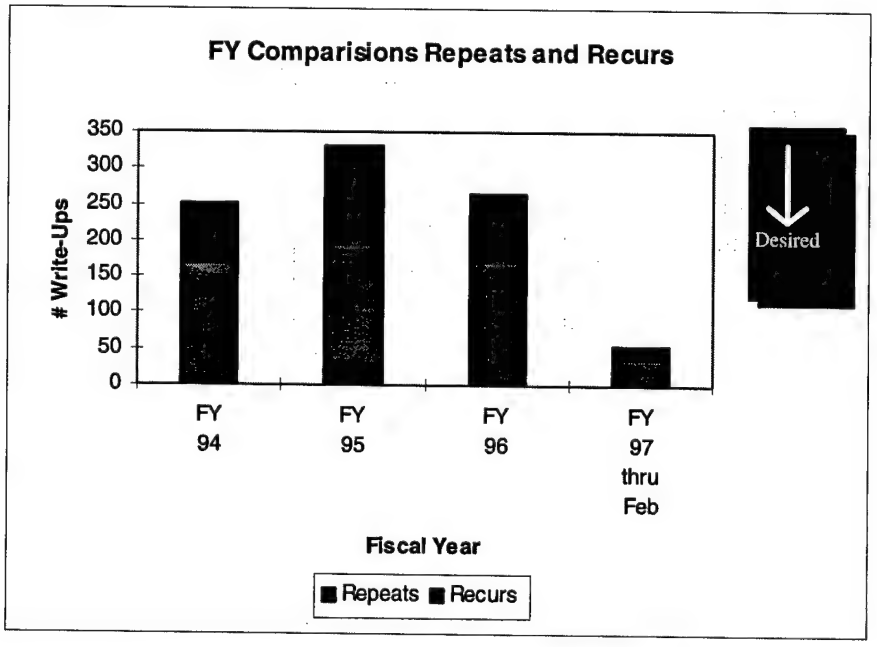


*Figure 41: Repeats and Recurring Write-ups*

All data above is from: (97 OSS/DOOA, 1997)

# Appendix E: Altus AFB C-141 Maintenance vs AMC Fleet

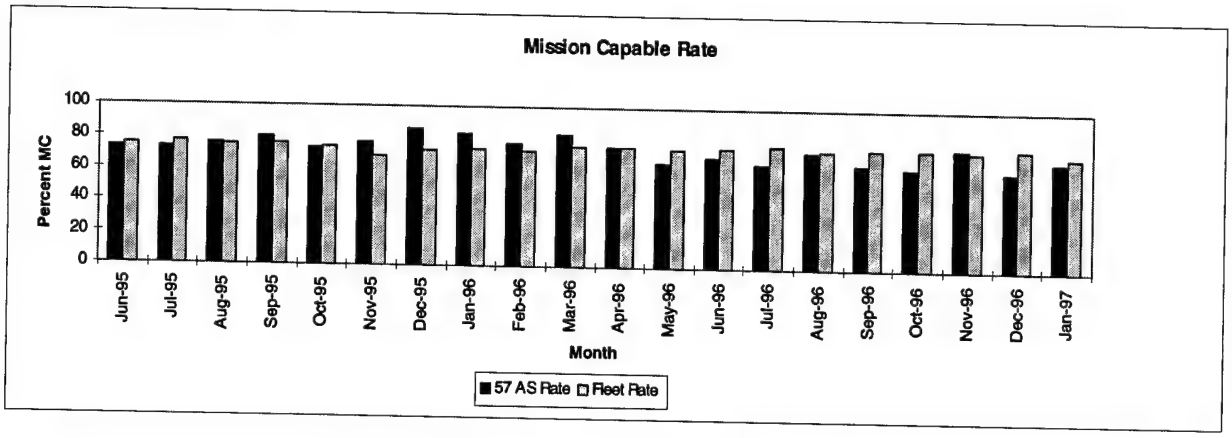


*Figure 42: Month by Month MC Rates*

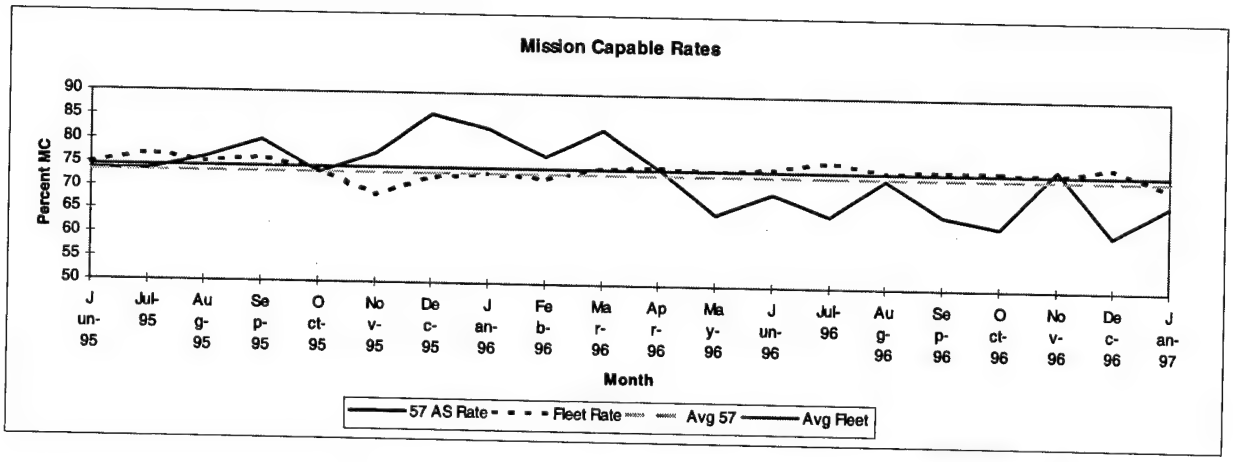


*Figure 43: MC Rate, Trend over time*

All data above is from: (97 OSS/DOOA, 1997)

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# Vita

Maj James R. Howard was born on 25 April 1961 in Enid, Oklahoma. He moved several times growing up since his father was in the United States Air Force. He graduated Sumter High School, Sumter SC, home of the 'Fighting Gamecocks' in 1979 and entered undergraduate studies at the University of New Hampshire. In 1980 he transferred to the United States Air Force Academy where he graduated with a Bachelor of Science degree in Business Administration/Management and received his commission 30 May 1984.

From the Academy he went to flight training at Vance AFB, in Enid Oklahoma. After flight training his assignments have included Emergency Actions Officer at Langley AFB, Wing Airlift Director and Chief Airlift Management at Norton AFB, and Chief Wing Operations Plans and Deputy Chief C-17 Integration at Altus AFB. While at Altus AFB he earned a Master of Art in Information Resource Management from Webster University. In February 1996 he entered the Advanced Studies of Air Mobility Program at the Air Mobility Warfare Center, Ft Dix, New Jersey. Upon graduation he will transfer to the Joint Warfighting Center, Ft Monroe, Virginia.

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